



**Contract No. 68-C-03-041  
Work Assignment No. 0-01**

***FINAL  
REPORT***

**Gulf of Mexico Program**

**November 4 – 5, 2003  
Citizen's Advisory Committee  
Meeting Summary**

**Gulf of Mexico Program  
November 4 - 5, 2003  
Citizens Advisory Committee  
Meeting Summary**

**Submitted to**

**U.S. Environmental Protection Agency  
Oceans and Coastal Protection Division  
Washington, DC**

**and**

**U.S. EPA Gulf of Mexico Program  
Stennis Space Center, MS**

**Contract No. 68-C-03-041  
Work Assignment No. 0-01**

**December 2003**

**Prepared by**

**Battelle  
397 Washington Street  
Duxbury, MA 02332  
(781) 934-0571**

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**Gulf of Mexico Program**  
**November 4 - 5, 2003**  
**Citizens Advisory Committee Meeting**  
**Summary**

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**Wednesday, November 5, 2003**

**1. Roll Call - Opening Remarks**

Mr. Brian Grantham, the Citizens Advisory Committee (CAC) chair, called the meeting to order by having all in attendance introduce themselves. Eleven of the CAC's 23 members attended. The meeting agenda and list of attendees are included as Appendix A and Appendix B, respectively.

The first order of business for the members was to discuss the previous day's field trip to various restoration sites within Galveston Bay. The group agreed that the trip was well-organized and that the guides were very knowledgeable about the area and the projects. The trip aimed to show examples of the types of restoration efforts the Galveston Bay National Estuary Program are involved with on a daily basis. The CAC members were impressed with the success of the partnerships the Galveston Bay National Estuary Program has had that have made and are continuing to make these restoration efforts possible. Several questions were raised from the field trip relating to pollution, subsidence, loss of groundwater, landownership of submerged grazing lands, and habitat restoration.

The second order of business was to review and approve the June 24-26, 2003 CAC Meeting Summary. The June summary was included in the CAC Briefing notebooks distributed to meeting attendees and had been posted to the CAC website. The CAC approved the summary but also requested that they receive notification when the summaries are posted to the website.

**2. GMP Director's Report**

*Gloria Car, GMP Associate Director*

Ms. Gloria Car presented a brief overview of the presentation the Gulf of Mexico Program presented to the Management Committee several weeks prior to this CAC meeting. Ms. Car's Presentation is located in Appendix C. Ms. Car updated the group on the status of executive order. She said it was ready to go forward, and that it is currently up to the Policy Review Board's (PRB) what will happen next. The CAC stated that they would like to be kept up-to-date with this.

Ms. Car briefly discussed the GMP structure and acknowledged that citizen's concerns helped to start the Gulf of Mexico Program (GMP) and that citizens are the backbone of the program. She emphasized the importance of CAC participation and mentioned that the GMP really cares about the CAC's attendance at meetings and about their input. The Participation Reports are used as a measure of what the CAC has done towards their Strategic Goals. During the presentation, Ms. Car stated that they would go over the 5 main GMP objectives from the 2004 GMP Strategic

Plan, and would welcome input from the CAC on how they could help the GMP address those objectives.

The first objective from the Strategic plan was to restore habitat and water quality. The GMP is currently focusing on 12 priority coastal areas. These areas include the Lower Laguna Madre, Coastal Bend and Bays and Galveston Bay in Texas, Lake Pontchartrain and the Barataria-Terrebonne Estuary in Louisiana, the Lower Pearl Basin, Coastal Stream Basin and Pascagoula Basin in Mississippi, the Mobile-Tensaw Basin and Mobile Bay in Alabama, and 4 priority areas in Florida including the Big Bend Basin, Tampa Bay, Sarasota Bay and Charlotte Harbor. The presentation discussed the impairments for each of the areas as well as the potential sources for the impairments. Ms. Car pointed out that since FY2000 through FY2003, the GMP has funded 38 projects at a total cost of approximately \$2.5 million to address water quality and habitat issues in these priority areas.

When asked what the CAC might do to assist the GMP in addressing this objective, the CAC discussed the possibility of having a Water Quality 101 presentation at their next meeting. This would be organized by the GMP and would provide the group with a general lesson on water quality from a technical perspective and some felt it would also be beneficial from a political and programmatic approach. The group considered the field trip to be a 101-type activity and requested more such opportunities since field trips can yield information transfer from state to state and organization to organization. It was also pointed out by several members of the CAC that the CAC be active participators in the state project meetings for their individual states.

Several concerns were raised by the CAC in regard to the CAC's participation and the amount of activity requested of them. Some suggestions were that the CAC might want to have access to a "traveling expert" or someone who can come to meetings and give presentations to the different organizations. It was noted that this was the GMP's intentions for the PowerPoint presentation. The CAC members have had some trouble with the presentation and would like to know in what context to present it. They would also like a short description to give to an organization prior to making a presentation. Terry Hines-Smith of the GMP mentioned the video that she had distributed to the group during the meeting. It shows a number of projects going on throughout the Gulf. The EPA also has a presentation called "What is an estuary? Now you know". It is an EPA campaign; an 8 minute CD that Terry can send out to the group if the CAC feels something like this would help in making presentations.

The second objective discussed during the presentation involved protecting public health. The GMP is focusing on three areas including shellfish, mercury in seafood and harmful algal blooms. Ms. Car pointed out that for FY2000 through FY2003, the GMP has funded 13 projects to assist in protecting public health and has spent approximately \$535K for this objective.

When asked what the CAC could do to support the GMP in addressing Objective 2, the CAC discussed Bacterial Source Tracking. Ned Meister explained how the Texas Farm Bureau along with Texas State Soil and Water Conservation Board, The Brazos River Authority, The City of Waco, and Texas A&M (with assistance from many other agencies/organizations/individuals) are conducting Bacterial Source Tracking Projects on Lake Waco and Belton. As part of the project they are collecting samples from species common to the two watersheds to develop a

library of 1000 isolates. They should have the project completed by next summer. Ned Meister said that he would be happy to give a report to the CAC once the project is completed.

The CAC members who participated in the workshop that was held on bacterial source tracking (BST) during the June Comprehensive meeting thought it was very interesting. The CAC mentioned that it would be good to have a presentation on the state of the science in BST. They could then have an educated view as to whether a project will indeed improve water quality or if they should wait until they know the source of the impairments before they support an action. Other presentations providing overviews of available science would also be useful. Some members mentioned presentations discussing the state's options to reduce nutrients even if sources are unknown (i.e., use of riparian buffers, what can individual landowners do, how can public outreach help with this issue).

During the discussion of Objective 2, Ms. Larinda Tervelt of the GMP presented the CAC with information on how the GMP is working to address Harmful Algal Bloom (HAB) concerns throughout the Gulf. Ms. Tervelt stated that much of the current focus on HABs is on red tide because it is the most toxic, most visible, and occurs most often in the Gulf. It impacts many species and humans, and can cost as much as \$20 million per event in losses and cleanup. The GMP is working on a pilot project (HABSOS) which would create a database that will allow for more efficient forecasting and tracking of HAB events. A report on the pilot project was due out in spring 2003; however, due to data problems it is expected to be available in the spring 2004.

The third objective Ms. Car presented was the GMP's effort to restore and protect habitats. Over the years the GMP's habitat projects have steadily increased the amount of protected and restored acres. The GMP is involved in a number of partnerships with Federal, State and non-profit organizations; including NOAA's Community-Based Restoration Partnership (CRP), the Nature Conservancy, National Fish and Wildlife Foundation, and Texas Corporate Wetlands Restoration Partnership. Habitat projects include baseline characterizations, habitat restoration, monitoring, research projects, and development of statewide Seagrass Monitoring Plans (TX).

There are secondary objectives for the habitat restoration objective as well. The GMP wants to develop a baseline characterization of seagrass habitat throughout the Gulf to gauge status and trends of seagrass. The GMP also is helping the states in developing plans to control invasive species. In addition, the GMP will assist in the implementation of the Louisiana LA 2050 Plan. This project involves diverting the MS River water and restoring coastal wetlands. It will also improve water quality by lowering nitrate levels.

When asked how the CAC could support the GMP in addressing issues pertaining to Objective 3, the CAC mentioned that additional field trips to show restorations activities are helpful. These trips help them take information on projects and how they are accomplished back to their constituency. A suggestion was put forth to explore the opportunity to take a trip to one or more of the LA 2050 areas of interest. It was also suggested that the Barataria-Terrebonne National Estuary would be another interesting and useful area for a field trip.

The fourth objective in the GMP strategic plan pertains to the Gulf Hypoxia issue. Ms. Larinda Tervelt gave a presentation on the Hypoxia Action Plan. This presentation is included as

## Appendix D.

Ms. Tervelt mentioned that each state within the Lower Mississippi River Sub-Basin Committee (LA, MS, AR, TN, MO) is working to identify key watersheds and pilot projects within those watersheds to evaluate nutrient reduction best management practices. Another project involves gathering existing nutrient data from the northern gulf region, compiling this information into a comprehensive database and then evaluating the data to identify gaps. This information will ultimately be needed in the development of nutrient criteria for the region. All the states are being asked to develop nutrient criteria, and all the states are doing it differently. This task will provide a comprehensive database where the information can be queried as well as a method for using the information to assist in nutrient criteria development.

Nutrient farming pilot projects are also an important initiative in the Gulf. These projects involve restoring an area to wetlands and then relying on the wetland vegetation to reduce the nitrogen in the system. A viable approach to nutrient farming would involve establishing several projects throughout the basin that vary in size, scale and landscape position. Nutrient farming would provide a strategy to improve water quality, provide ecological benefits and provide economic opportunities for area farms by providing an alternative income. Currently, only one of these projects can be supported due to limited funds.

The 5<sup>th</sup> objective in the GMP Strategic plan is to foster regional stewardship and a strong sense of community and value among Gulf State residents, and tourists to protect, restore, and responsibly use the resources of the Gulf of Mexico. This objective involves improving the awareness of the Gulf resources through outreach and education. Ms. Terry-Hines Smith provided an update of the GMP's Communication (Appendix E). She outlined the Gulf Guardian Awards and a number of other campaigns and initiatives gulf-wide to raise awareness of the value of the Gulf. The other communications issues included several video news releases, a survey that will be used to evaluate regional awareness, the one Gulf campaign and the Annual report.

It was mentioned that the GMP Annual Report has been discontinued per the GMPO Director; however, a condensed version will be available in a printer-friendly format on the web site and it will be updated quarterly. It was proposed that a "Citizens Corner" could be added to the Directors report. This section could highlight a CAC member or project. CAC members could volunteer or have a rotating schedule to prepare this section each quarter.

Following the Communication presentation, CAC members discussed the current level of participation at CAC meetings, as well as at other organizations' meetings (in the capacity of a CAC member). It was mentioned that this is a frequent topic at CAC meetings. CAC members stated that although some members may not participate in the 3 CAC meetings held annually, they may be active in a number of other meetings and organizations that they do not necessarily communicate to the GMP.

Some of the CAC members said that one barrier to their participation was a lack of clear goals. The CAC members are not certain what the GMP wants them to bring to the outside meetings that they attend and in which they participate. The members agreed that the weakest part of their

function is not what they give to the program but what they take away from the program to give to their constituencies. The CAC needs a clear plan with a number of different approaches to reach the same goals so that they can decide what works best for themselves. The CAC is a volunteer organization; it is a diverse group, with different backgrounds, careers, ages and interests. What works for one CAC member, may not necessarily work for another member. Some members may want to give multiple presentations whereas others may not be inclined to do so.

It was mentioned that it is very difficult to get 25 appointed members, and even more difficult for them all to coordinate their schedules so that they can come to the meetings. Currently there is no defined policy regarding Citizen's attendance; however the Bylaws imply that if a CAC member has not attended a meeting in over a year (or missed 3 consecutive meetings) then they can be dismissed and replaced, albeit with an interim member until a new one is appointed by the Governor. One suggestion presented by a CAC member was to draft a letter that meets some criteria of non-attendance. It would be sent from the Chair, reminding the absentee member that they haven't attended a specified number of meetings, and questioning whether that CAC member is still interested in participating.

In the case of CAC meeting attendance, Ms. Car suggested that Brian Grantham send out a letter to those who do not regularly attend meetings, as well as to those people who have not been submitting any participation information and/or attending other meetings.

Note about Governor appointed members: when the Governor appoints a member and there was already someone in that position then the Governor's appointment supercedes the other. This is the case in the Governor's appointment of Eva Golson for Tourism for Alabama. Another note is that a new designation was established for members appointed by CAC members within that state – the new designation is Interim member. This is to reduce confusion between alternate members, a designation that has been used for those who serve as a back-up if the regular CAC member cannot attend and previously used for the Interim members.

### **3. Meeting Wrap-Up**

The CAC requested a list of all of the meetings; state project meetings, committees meetings so that they can plan-ahead and contact fellow state CAC representatives.

Meeting schedule for 2004:

The CAC discussed the changes to the meeting schedule that took place in 2003 (moving from 3 meetings a year to 2 meetings a year, and the CAC members attending their state project meetings on their own). The GMP said that they can still support 3 meetings (not including the state meetings). The issue of attendance was discussed again as the group discussed the pros and cons of attending 2 versus 3 meetings per year. The final decision was that the CAC would go back to 3 meetings per year. One would be in the spring, one in the summer (incorporated into the Comprehensive meeting) and the last would be in the fall. One meeting per year would include a field trip and locations for one meeting per year would be somewhere other than New Orleans and Stennis.



The next meeting will be scheduled for the second week in March and it will be held in the Bay St. Louis Area.

On the Agenda for the March meeting:

Water Quality 101-1/2 day seminar

The CAC will work on an Outreach plan.

LA Wetland Update

CAC Presentation- What can we do to make this more useful, what are the GMP's goals for it?

Elections: This meeting was supposed to be elections for the CAC Co-Chairs, the group decided unanimously to re-elect Brian and Robert to their posts.

# **Appendix A**

## Agenda



# **Gulf of Mexico Program Citizens Advisory Committee Meeting**

**November 4-5, 2003  
Galveston, Texas**

## *Tuesday, November 4*

1:00 – 5:00            Field Trip by Boat (or by automobile if inclement weather)  
                              *With the Galveston Bay Estuary Program*

## *Wednesday, November 5*

8:30 – 9:00            Opening Remarks/Introductions  
                              *Brian Grantham, Chair*

- Discussion from previous day's trip
- Review and Approval of November 6-7, 2002 Meeting Summary

9:00 – 9:45            GMP Director's Report  
                              *Gloria Car, Associate Director*

9:45 – 10:45           The GMP's Action Plan for Reducing, Mitigating, and  
                              Controlling Hypoxia in the Northern Gulf of Mexico  
                              *Larinda Tervelt, GMP Office*

- Followed by Round-Table Discussion Regarding CAC

10:45 – 11:00           Break

11:00 – 11:45           GMP Communications Review  
                              *Terry Hines-Smith, GMP Office*

- Citizen's Role in the Gulf Guardian Award Process and  
                              other GMP Communications Activities

11:45 – 1:00           Break for Lunch

- |             |  |
|-------------|--|
| 1:00 – 2:00 | CAC Role in GMP Strategic Plan<br><i>Jennifer Field, Battelle</i> <ul style="list-style-type: none"><li>• Discussion and Recommendations</li></ul>   |
| 2:00 – 3:00 | Closing Remarks <ul style="list-style-type: none"><li>• Schedule for 2004 meetings</li><li>• Potential topics for next meeting:<ul style="list-style-type: none"><li>○ Louisiana Wetland Update</li><li>○ Chesapeake Bay CAC</li></ul></li></ul> |
| 3:00        | Adjourn  |

## **Appendix B**

### **Attendee List**

# **Citizens Advisory Committee Meeting**

## **November 4-5, 2003 Galveston, TX**

### **Attendee List**

#### **ALABAMA**

##### **Agriculture**

Mr. Brian Grantham, CAC Chair  
Teacher, Agriculture  
14053 Woodland Drive  
Magnolia Springs, AL 36555  
(251) 943-1486 Fax: (251) 943-3538  
Home: (251) 943-8267  
Email: [bgrantham@bcbe.org](mailto:bgrantham@bcbe.org)  
Appointed: 5-30-90  
Reappointed: 6-14-01  
Reappointed: 8-19-03

##### **Business/Industry**

Mr. Robert Crowe, CAC Vice-Chair  
Supervisor  
Corporate Real Estate-Mobile Division  
Alabama Power Company  
150 St. Joseph Street  
Mobile, AL 36652-2247  
(251) 694-2391/928-6615  
Fax: (251) 694-2430  
Email: [rhcrowe@southernco.com](mailto:rhcrowe@southernco.com)  
Reappointed: 3-14-01  
Reappointed: 8-19-03

##### **Tourism**

Ms. Eva Golson  
Mobile Film Office  
164 St. Emanuel St.  
Mobile, AL 36602  
(251) 438-7102  
Cell: (251) 604-8420  
Email: [golson@ci.mobile.al.us](mailto:golson@ci.mobile.al.us)  
Appointed: 8-19-03

#### **FLORIDA**

##### **Agriculture**

Mr. Scottie J. Butler  
General Counsel  
Florida Farm Bureau  
P. O. Box 147030  
Gainesville, FL 32614  
Fed Ex:  
5700 S.W. 34<sup>th</sup> Street  
Gainesville, FL 32608  
(352) 374-1599 Fax: (352) 374-1501  
Email: [sbutler@sfbic.com](mailto:sbutler@sfbic.com)  
Appointed: 12-07-99

##### **Tourism**

Ms. Rebecca H. Clayton  
Director of Education and Exhibits  
Kid City, The Children's Museum of Tampa  
7550 North Boulevard  
Tampa, FL 33604  
(813) 935-8441  
Email: [bclayton@flchildrensmuseum.com](mailto:bclayton@flchildrensmuseum.com)  
Appointed: 6-3-02

#### **LOUISIANA**

##### **Agriculture**

Mr. Paul Maclean  
President  
Maclean Land Services, Inc.  
P. O. Box 3620  
Houma, LA 70361  
FedEx:  
302 Church Street  
Houma, LA 70360  
(985) 868-4963 Fax: (985) 851-6951  
Email: [mls@cajun.net](mailto:mls@cajun.net)  
Appointed: 3-18-92  
Reconfirmed: 1-5-00

## **MISSISSIPPI**

### **Business/Industry**

Mr. J. R. Wilson  
709 Washington Avenue  
Pascagoula, MS 39567  
(228) 762-7264  
Fax: (228) 696-2971 (call first)  
Email: [salliebelle@peoplepc.com](mailto:salliebelle@peoplepc.com)  
Appointed: 5-04-93

## **TEXAS**

### **Agriculture**

Mr. Ned A. Meister  
Director, Commodities & Regulatory Activities  
Texas Farm Bureau  
P. O. Box 2689  
Waco, TX 76702-2689  
FedEx:  
7420 Fish Pond Road  
Waco, Texas 76710  
(254) 751-2457 Fax: (254) 751-2671  
Email: [nmeister@txfb.org](mailto:nmeister@txfb.org)  
Secretary's Email: [dphillips@txfb.org](mailto:dphillips@txfb.org)  
Appointed: 10-15-96

### **Business/Industry**

Mr. James W. Kachtick  
9035 Hendon Lane  
Houston, TX 77036  
(713) 772-2598  
Fax: (713) 772-2598 (call first)  
Email: [jkachtick@aol.com](mailto:jkachtick@aol.com)  
Appointed: 10-15-96

### **Environment**

Ms. Linda Shead  
The Trust for Public Land  
Houston/Galveston Office  
1113 Vine Street, Suite 200  
Houston, TX 77002  
(713) 226-7200 Fax: (713) 226-7229  
Email: [linda.shead@tpl.org](mailto:linda.shead@tpl.org)  
Appointed: 4-30-02

## **Tourism**

Mr. David Alex  
Alex and Associates International  
P.O. Box 531300  
Harlingen, TX 78553  
FedEx: 920 W. Van Buren  
Harlingen, TX 78550  
(956) 425-7007 Fax: (956) 425-7121  
Email: [aaidea@aol.com](mailto:aaidea@aol.com)  
Appointed: 1-24-02

## **GULF OF MEXICO PROGRAM**

Ms. Gloria Car  
Associate Director for Administration  
Gulf of Mexico Program Office  
Mail Code: EPA/GMPO  
Stennis Space Center, MS 39529-6000  
(228) 688-2421  
Email: [car.gloria@epa.gov](mailto:car.gloria@epa.gov)

Ms. Terry Hines-Smith  
Public Affairs Specialist  
Gulf of Mexico Program Office  
Mail Code: EPA/GMPO  
Stennis Space Center, MS 39529-6000  
(228) 688-7011  
Email: [hines-smith@epa.gov](mailto:hines-smith@epa.gov)

Mr. Drew Puffer  
CAC Liaison  
Gulf of Mexico Program Office  
Mail Code: EPA/GMPO  
Stennis Space Center, MS 39529-6000  
(228) 688-1156  
Fax: (228) 688-2709/2306  
Email: [puffer.drew@epa.gov](mailto:puffer.drew@epa.gov)

Ms. Larinda Tervelt  
EPA Region 4 Liaison  
Gulf of Mexico Program Office  
Mail Code: EPA/GMPO  
Stennis Space Center, MS 39529-6000  
(228) 688-1033  
Email: [tervelt.larinda@epa.gov](mailto:tervelt.larinda@epa.gov)

## **BATTELLE**

Ms. Jennifer Field  
Battelle  
1400 Centre Park Blvd.  
Suite 1005  
W. Palm Beach, FL 33401  
(561) 656-6303 Fax: (561) 683-0126  
Email: [fieldj@battelle.org](mailto:fieldj@battelle.org)

Ms. Melissa Manley  
Program Assistant  
Battelle  
397 Washington Street  
Duxbury, MA 02332  
(781)952-5365 Fax: (781) 952-5369  
Email: [manleym@battelle.org](mailto:manleym@battelle.org)

## **GUESTS**

Ms. Alisha Goldberg  
Estuarine Ecologist, Galveston Resident  
1027 63<sup>rd</sup> Street  
Galveston, TX 77551  
(409) 744-5494  
Email: [argld@aol.com](mailto:argld@aol.com)

Mr. Chuck Wemple  
Coastal Citizen/Consulting Scientist  
2108 Church Street Galveston, TX 77550  
Tel. 409 750-9724  
Email: [chuckwemple@att.net](mailto:chuckwemple@att.net)



## **Appendix C**

GMP Program Review, Gloria Carr

**Gulf of Mexico Program  
Citizens Advisory Committee  
November 5, 2003**

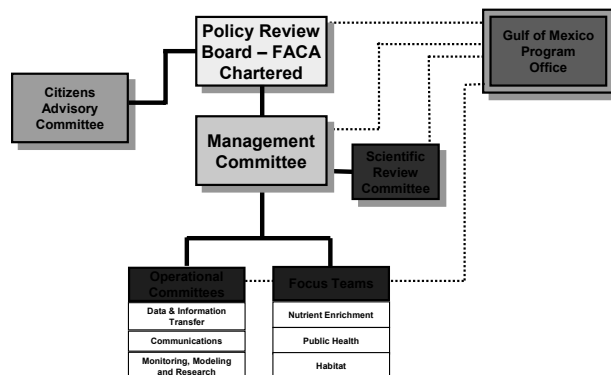


**GMP Program  
Review**



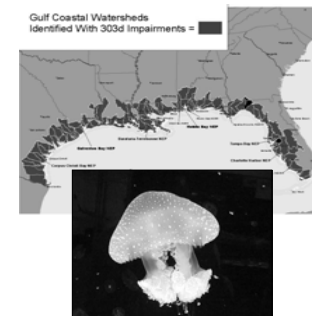
**FY 2000-2003**

**GMP Structure/Participation**



**Key Challenges**

- 45% all impaired waterbodies in coastal watersheds
- Gulf coastal counties 2<sup>nd</sup> fastest growth rate
- Basic services not satisfied (E.G., Sewage treatment)
- > 50% shellfish waters restricted
- 50% wetland loss; 20% - 80% seagrass loss
- Increase in number & distribution Harmful Algal Blooms
- Increased awareness of Invasive Species



### What issues set the Gulf apart from other waters/coastal systems?

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- *Vibrio vulnificus* oyster contamination
- Harmful Algal Blooms
- Gulf Hypoxia
- Louisiana coastal land loss

### What issues does the Gulf have in common with other waters/coastal areas that need to be addressed?

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- Invasive species
- Coastal development/urbanization
  - nutrient enrichment
  - habitat loss
  - sewage contamination
- Mercury contamination of fish
- Freshwater inflow

### GMP Objectives

#### By 2009 –

- Restore 20% of impaired segments in priority coastal areas
- Assist the Gulf States in protecting public health (Vibrio, Mercury, HABs)
- Protect or restore 20,000 acres important coastal & marine habitat
- Implement voluntary practices to prevent invasive species
- Support national efforts to reduce Gulf hypoxia to 1,930 square miles
- Foster regional stewardship sense of community



### GMP's FOCUS



- Restore water and habitat quality in impaired segments in 12 priority coastal areas

## GMP's FOCUS

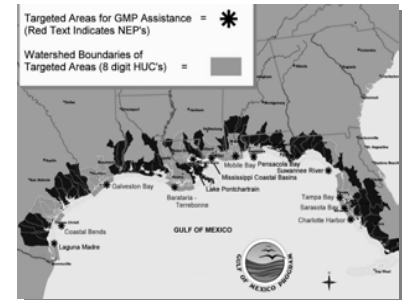


- Restore water and habitat quality in impaired segments [which comprise the Hydrologic Unit Codes (HUCs) ] in 12 priority coastal areas

(USGS developed maps depicting boundaries and numerical codes for river basin units of the U.S. These maps and codes provide a standardized base for use by water resource organizations in locating, storing, retrieving, and exchanging hydrologic data.)

## Priority Coastal Areas

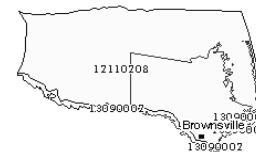
Lower Laguna Madre  
Coastal Bend & Bays  
Galveston Bay  
Barataria-Terrebonne Bays  
Lake Pontchartrain  
Mississippi Coastal Basin  
Mobile Bay  
Pensacola Bay  
Lower Suwannee River  
Tampa Bay  
Sarasota Bay  
Charlotte Harbor



## Texas

**Priority Areas:**  
Lower Laguna Madre  
Coastal Bend & Bays  
Galveston Bay

## Texas – Lower Laguna Madre System



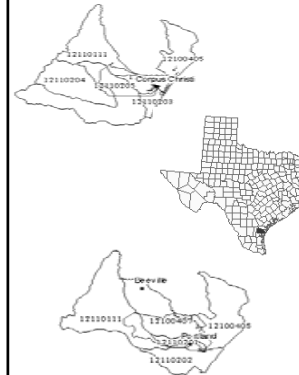
13090002 – Lower Rio Grande  
12110208 – South Laguna Madre



**Priority Area: Lower Laguna Madre**

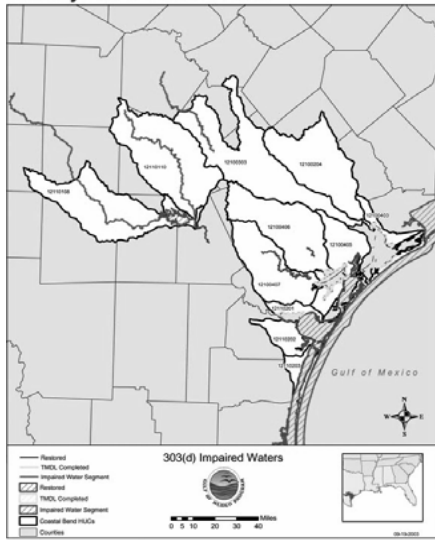


## Texas – Coastal Bend & Bays System

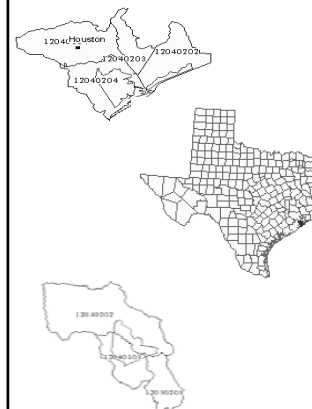


- 12100204 – Lower Guadalupe
- 12100303 – Lower San Antonio
- 12100403 – East San Antonio Bay
- 12100405 – Aransas Bay
- 12100406 – Mission
- 12100407 – Aransas
- 12110108 – Lower Frio
- 12110110 – Atascosa
- 12110201 – North Corpus Christi Bay
- 12110202 – South Corpus Christi Bay
- 12110203 – North Laguna Madre

**Priority Area: Coastal Bend**



## Texas – Galveston Bay System

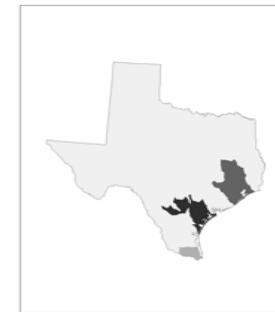


- 12030202 – Lower Trinity-Kickapoo
- 12030203 – Lower Trinity
- 12040101 – West Fork San Jacinto
- 12040102 – Spring
- 12040103 – East Fork San Jacinto
- 12040104 – Buffalo-San Jacinto
- 12040202 – East Galveston Bay
- 12040203 – North Galveston Bay
- 12040204 – West Galveston Bay
- 12040205 – Austin Oyster
- 12070104 – Lower Brazos



### Priority Area Objective 1 Projects –

- 2001 Texas Gulf Coast Molluscan Shellfish Growing Waters
- 2002 Development and Implementation of Regional Water Quality Monitoring Program



## Texas



### Major impairments:

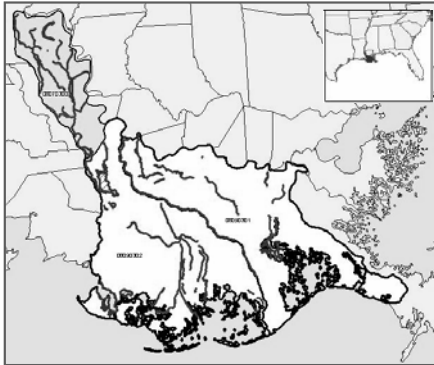
- Bacteria (oyster waters)
- Pathogens
- Mercury in King Mackerel
- Dissolved Oxygen
- GB – Dioxin in Catfish & Crab Tissue

## GMP Priority Areas in Louisiana



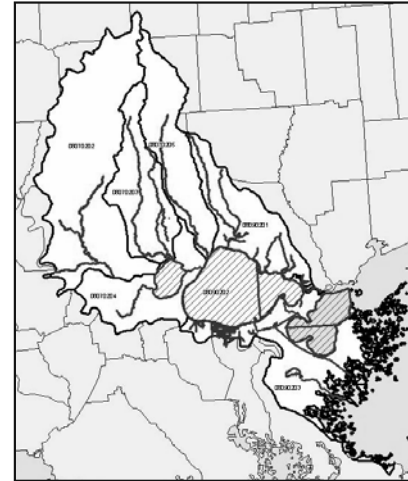
- Lake Pontchartrain
- Barataria-Terrebonne Estuaries

## Barataria-Terrebonne



HUCs  
08090301  
08090302

## Lake Pontchartrain Basin



08070202 Amite  
08070203 Tickfaw  
08070204 Lake Maurepas  
08070205 Tangipahoa  
08090201 Liberty Bayou-Tchefuncta  
08090202 Lake Pontchartrain  
08090203 Eastern Louisiana Coastal

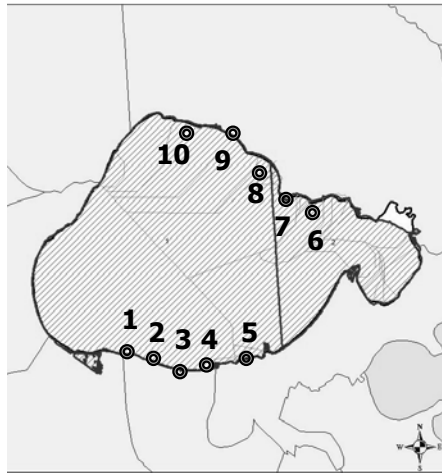


BTB.28 & BTB.28.1  
Monitoring and Assessment  
of the Pointe aux Chene  
Stormwater Diversion



BTB.29 Marsh  
Upwelling Demo at  
Bayou Segnette

## Lake Pontchartrain

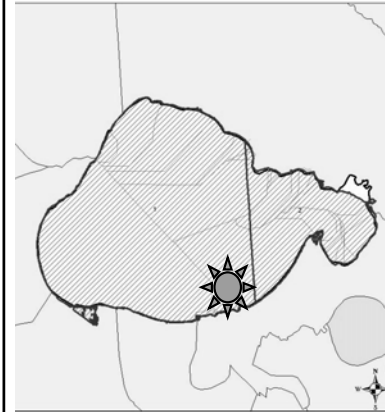


### LP.25 Water Quality Monitoring in the Lake Pontchartrain Basin

#### Weekly Samples

- 1 Laketown, Kenner
- 2 Bonabel Boat Launch
- 3 Old Beach
- 4 Pontchartrain Beach
- 5 Lincoln Beach
- 6 Northshore Beach
- 7 Bayou Castine
- 8 Fountainebleau
- 9 Bogue Falaya Park
- 10 Tchefuncte R.

## Lake Pontchartrain



### LP.39 Restoration of 100 Square Miles of Shellfish Habitat in Lake Pontchartrain

This project will document the adverse effects of episodic hypoxia on the biotic integrity of Lake Pontchartrain and provide quantitative data on the benefits derived from the restoration of 100 square miles of *Rangia cuneata* habitat.



## Louisiana

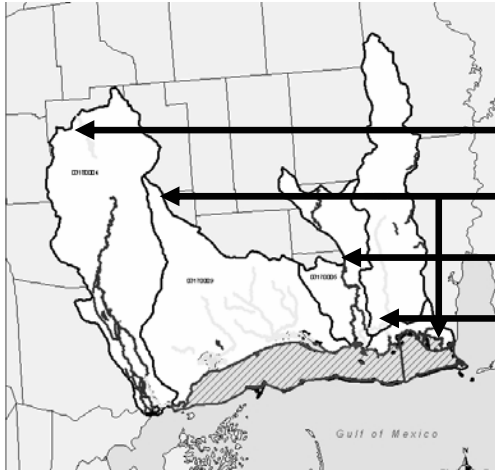
**Major Impairments:**  
 Nutrients  
 Fecal Coliforms  
 Low Dissolved Oxygen  
 Mercury  
 Turbidity  
 Sulfates  
 Pesticides



## Mississippi Coastal Basins

Map Credit: NOAA NCDDC  
 This information is correct pending a final review process from MDEQ





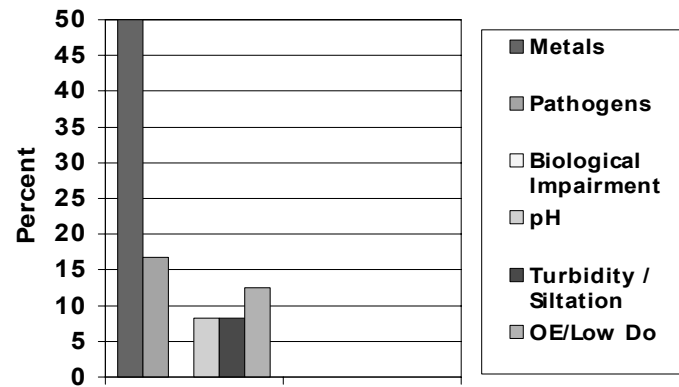
Lower Pearl  
Coastal Streams  
Pascagoula  
Escatawpa

Map Credit: NOAA NCDDC  
This information is correct pending a final review process from MDEQ

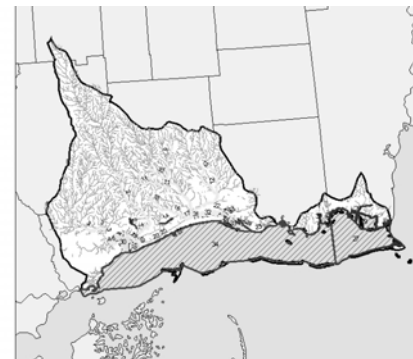
## Lower Pearl - 03180004



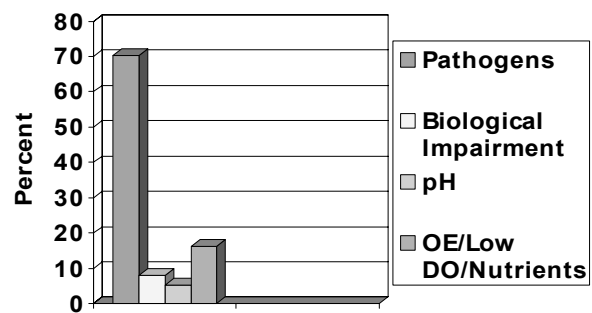
## Lower Pearl Basin Percent Impairments



## Coastal Streams - 03170009



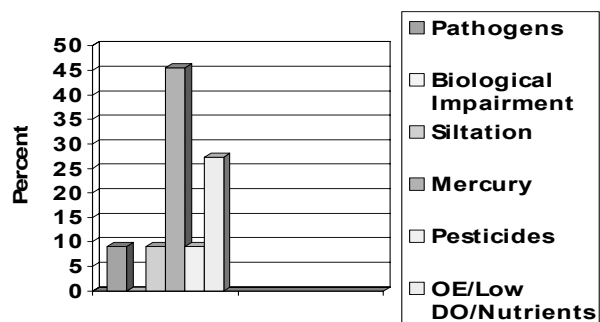
## Coastal Streams Basin Percent Impairments



## Pascagoula - 03170006



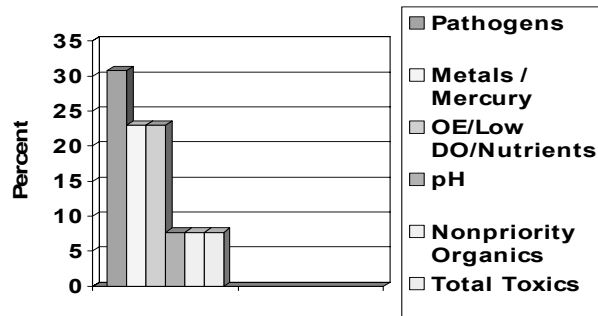
## Pascagoula Basin Percent Impairments



## Escatawpa - 03170008



## Escatawpa Basin Percent Impairments



## Lower Pearl Basin Projects and Activities



- MCB.72 Monitoring for St. Louis Bay Estuary and Watershed Model Calibration
- MDEQ Pearl River Basin Team

Photo Credit: TNC

## Coastal Stream Basin Projects and Activities



Diamondhead WW Treatment Plant

- Nutrient Pilot Study
- Hancock County Comprehensive WW Collection and Treatment Plan
- MDEQ Coastal Streams Basin Team
- MDEQ Nutrient Criteria Development Team
- MS Coastal Basin Watershed Forum

## Pascagoula Basin Projects and Activities



Pascagoula River Basin Alliance Field Trip

- Pascagoula River Basin Alliance
- MDEQ Pascagoula River Basin Team



# Mississippi

## Major Impairments:

Pathogens

Low Dissolved Oxygen/Nutrients

Mercury

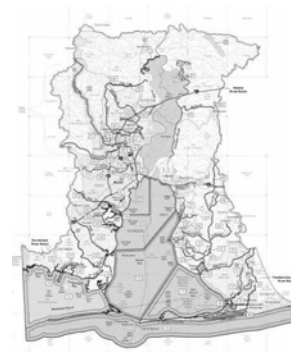
Metals

## Mobile Bay Priority Area

Two 8 digit hydrologic units

- Mobile-Tensaw  
AL/03160204

- Mobile Bay  
AL/03160205



## Mobile-Tensaw AL/03160204

### Water Segments

- Chickasaw Creek
- Bayou Sara/Norton Creek
- Cold Creek Swamp
- Eightmile Creek
- Gum Tree Branch
- Threemile Creek
- Tensaw River
- Bay Minette Creek



## Mobile Bay AL/03160205

### Water Segments

- Bon Secour Bay
- UT to Bon Secour River
- Dog River
- Fish River
- Fowl River
- Bay Minette Creek
- Mobile Bay
- Mobile River
- Intracoastal Waterway
- Gulf of Mexico



## Impairments Mobile-Tensaw

Chickasaw Creek	Mercury
Bayou Sara/Norton Creek	Nutrients
Chickasaw Creek	Mercury
Cold Creek Swamp	Metals
Eightmile Creek	Pathogens
Gum Tree Branch	Pathogens
Threemile Creek	Chlordane/OE/DO
Tensaw River	Mercury
Bay Minette Creek	Mercury
ThreeMile Creek	OE/DO/pH

## Impairments Mobile Bay

Bon Secour Bay	Pathogens
Dog River	Pathogens/OE/DO
Gulf of Mexico	Mercury
Fish River	MercuryPathogens
Intracoastal Waterway	OE/DO
Mobile Bay	OE/DO
Mobile Bay	Pathogens
UT to Bon Secour River	Pathogens
Bay Minette Creek	Mercury
Fowl River	Mercury
Mobile River	Mercury

## 1.A.1 Projects in AL/03160204

- MB.39 - Conservation Tillage Demo Project (FY 2003 Project)
- AL.42 - ThreeMile Creek TMDL Study (FY 2003 Project)

## 1.A.1 Projects in AL/03160205

- AL.24 - Coastal AL Recreational Water Quality Monitoring (FY 2000 & FY 2001 Project)
- AL.19/MB.23 - Mobile Bay & Watershed Water Quality Modeling (FY 2001 Project)
- AL.26 - LU/LC Analysis for Coastal AL (FY 2001 Project)
- AL.27 - AL Harmful Algal Bloom Info Exchange (FY 2001 Project)

## Continuation of AL/03160205

- AL.12 - Baldwin Co. Septic Tank Maintenance Demo Project (FY 2002 Project)
- MB.39 - Conservation Tillage Demo Project (FY 2003 Project)

## AL Strategic Assessment Process

- Identify project partners for highly-ranked projects
- Rank the projects based on their potential to remove the waterbody from the 303(d) list, available funding mechanism (including GMP funding), and public/political support



# Alabama

### Major Impairments:

Pathogens

Mercury

Low Dissolved Oxygen/Nutrients

## FLORIDA 4 PRIORITY AREAS

**Big Bend Basin**  
including the Lower  
Suwannee, Santa Fe  
and Withlacoochee  
Rivers

**Tampa Bay Basins**  
including Springs  
Coast

**Sarasota Bay**

**Charlotte Harbor**



## Water Quality

### Impairments:

Coliforms  
Nutrients  
Turbidity  
Total Suspended Solids  
Biochemical Oxygen Demand  
Mercury  
Dissolved Oxygen

### Potential Sources

Silviculture  
Agriculture  
Wastewater Effluent  
Power plants  
Mining



Lower Ochlockonee River

## Water Quality

### Impairments:

Coliforms  
Nutrients  
Turbidity  
Total Suspended Solids  
Biochemical Oxygen Demand  
Mercury  
Dissolved Oxygen  
Bacteria

### Potential Sources

Silviculture  
Refineries  
Wastewater Effluent  
Power plants  
Agriculture  
Including plant nurseries  
Stormwater runoff



Apalachee Bay - St. Marks

## Water Quality

### Impairment:

Dissolved Oxygen

### Potential Sources

Silviculture  
Agriculture  
Urban runoff



Aucilla River

## Water Quality

### Impairments:

Dissolved Oxygen  
Biochemical Oxygen Demand  
Coliforms  
Cadmium  
Nutrients  
Dioxin  
Mercury  
Un-ionized Ammonia  
Conductivity  
Turbidity

### Potential Sources

Pulp & Paper Discharge  
Domestic Wastewater



Nature Coast

## Water Quality

### **Impairments:**

Nutrients  
Dissolved oxygen  
Coliforms  
Mercury  
Biology

### **Potential Sources**

Agriculture  
Wastewater  
Stormwater



Suwannee River

## Water Quality

### **Impairments:**

Coliforms  
Nutrients  
Dissolved oxygen  
Mercury  
Biochemical oxygen demand

### **Potential Sources**

Silviculture  
Agriculture  
Mining  
Wastewater treatment



Santa Fe River

## Water Quality

### **Impairments:**

Nutrients  
Coliforms  
Dissolved Oxygen  
Mercury

### **Potential Sources**

Agriculture  
Domestic Wastewater



Wacassassa River

## Water Quality

### **Impairments:**

Dissolved Oxygen  
Coliforms  
Nutrients  
Biochemical Oxygen Demand

### **Potential Sources**

Agriculture  
Silviculture



Withlacoochee River South



## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**  
**Biochemical Oxygen Demand**

### **Potential Sources**

**Agriculture**  
**Silviculture**



**Withlacoochee River South**

## Water Quality

### **Impairments:**

**Nutrients**  
**Dissolved Oxygen**  
**Coliforms**  
**Mercury**  
**Lead**  
**Turbidity**  
**Biochemical Oxygen Demand**  
**Total Suspended Solids**  
**Unionized Ammonia**

### **Potential Sources**

**Agriculture**  
**Silviculture**  
**Stormwater runoff**  
**Mining**  
**Wastewater discharge**



**Hillsborough River**

## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**  
**Turbidity**

### **Potential Sources**

**Urban non point source**  
**Agriculture**  
**Mining**



**Alafia River**

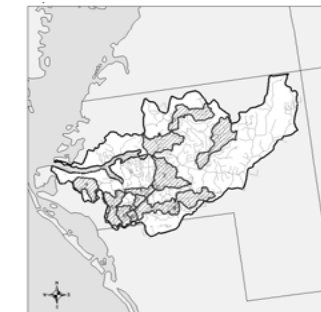
## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**  
**Total Suspended Solids**  
**Turbidity**  
**Biochemical Oxygen Demand**

### **Potential Sources**

**Agriculture**  
**Domestic Wastewater**  
**Industrial Wastewater**



**Manatee River**

## Water Quality

### **Impairments:**

**Nutrients**  
**Turbidity**  
**Coliforms**  
**Dissolved Oxygen**  
**Lead**  
**Cadmium**  
**Copper**  
**Zinc**

### **Potential Sources**

**Wastewater Discharge**  
**Stormwater Runoff**



**Sarasota Bay**

## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**

### **Potential Sources**

**Agriculture**  
**Mining**  
**Domestic and Industrial Wastewater**



**Little Manatee River**

## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**  
**Turbidity**

### **Potential Sources**

**Urban Runoff**  
**Industrial Wastewater**  
**Domestic Wastewater**  
**Phosphate mining**  
**Agriculture**  
**Power Plants**



**Tampa Bay**

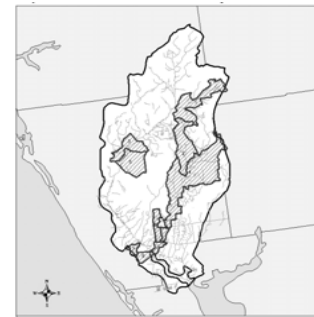
## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**  
**Biochemical Oxygen Demand**  
**Turbidity**  
**Total Suspended Solids**  
**Mercury**  
**Biology**

### **Potential Sources**

**Mining**  
**Agriculture**  
**Urban Runoff**



**Myakka River**

## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Coliforms**  
**Nutrients**  
**Unionized Ammonia**  
**Fluoride**  
**Turbidity**  
**Total Suspended Solids**  
**Biochemical Oxygen Demand**

### **Potential Sources**

**Mining**  
**Agriculture**  
**Urban Runoff**



**Peace River**

## Water Quality

### **Impairments:**

**Nutrients**  
**Mercury**  
**Dissolved Oxygen**  
**Coliforms**  
**Turbidity**

### **Potential Sources**

**Urban**  
**Industrial**  
**Agriculture**



**Charlotte Harbor**

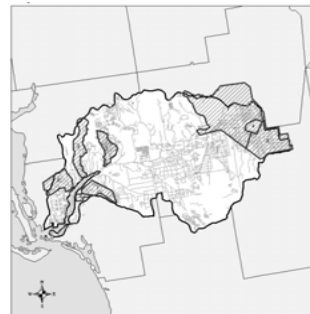
## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Nutrients**  
**Biochemical Oxygen Demand**  
**Coliforms**

### **Potential Sources**

**Agriculture**  
**Urban runoff**



**Caloosahatche River**

## Water Quality

### **Impairments:**

**Dissolved Oxygen**  
**Nutrients**  
**Coliforms**  
**Copper**  
**Bacteria**

### **Potential Sources**

**Urban Runoff**  
**Agriculture**  
**Domestic Wastewater**



**Estero Bay**

## **FLORIDA**

**03110205 – Suwannee River**

**FY2000**

**LSR.07 – Analysis of fisheries data to determine freshwater requirements**

**FY2002**

**LSR.09 – Reduce onsite sewage impacts**

**FY2003 -2004**

**FL.24/SB.04 – Assessment of groundwater Discharge and sewage impacts**

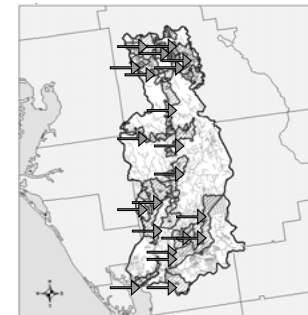


## **FLORIDA**

**03100101– Peace River**

**FY2000**

**CH.04-Establish environmental indicators and goals**



## **FLORIDA**

**03090204 – Estero Bay**

**FY 2003**

**CH.11 Ecological Calibration of Estero Bay Basins**

Group 1 Basin



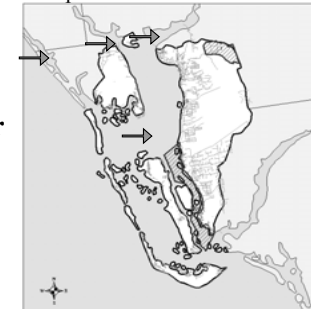
## **FLORIDA**

**03100103– Charlotte Harbor**

**FY 2004**

**CH13- Water Quality Survey for and correction of septic sewage pollutants**

Group 2 Basin



## FLORIDA

03100201 – Sarasota Bay

FY2003 - 2004

**FL.24/SB.04 – Assessment of groundwater discharge and sewage impacts**



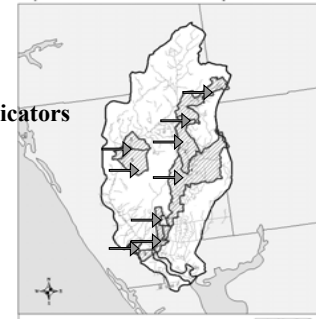
Sarasota Bay

## FLORIDA

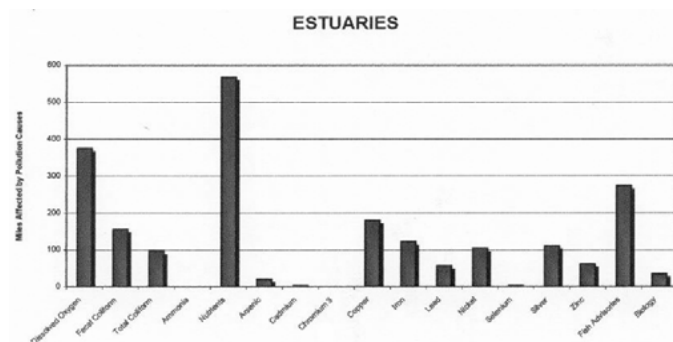
03100102 – Myakka River

FY2000

**CH.04-Establish environmental indicators and goals**



## Pollution Causes (2002 305(b) Report)



**Nutrients and subsequent eutrophication may be the major causes of impairment**



## Florida

**Major Impairments:**

**Nutrients**

**Low Dissolved Oxygen**

**Coliforms**

**Mercury**

**Turbidity**



# Objective 1 – Water Quality

FY 2000-FY 2003:

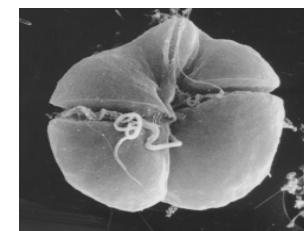
GMP has funded 38 projects in priority  
areas to restore water quality –

\$2,488,395

## GMP's FOCUS



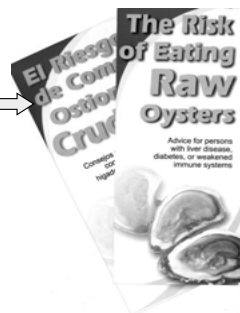
- Shellfish
- Recreational Waters
- Harmful Algal Blooms



Objective 2 (A) Assist the Gulf States in protecting public health by providing information concerning contaminated seafood and early warnings of harmful algal blooms.

The GMP will assist the Gulf States and the ISSC in reducing the rate of shellfish-borne *Vibrio vulnificus* illnesses caused by consumption of commercially-harvested raw or undercooked oysters.

Educational materials developed by the ISSC with Support from the GMP



Distribution (2002/2003)

113,881 consumer brochures (English)  
66,627 consumer brochures (Spanish)  
40,709 provider fact sheets

Sub-objective 2(B): Assist the Gulf States, in cooperation with the Gulf States Marine Fisheries Commission, in developing and implementing a scientifically sound, Gulf-wide monitoring program for total mercury/methylmercury levels in fish tissue from recreationally and commercially important species; ...

### Monitoring Program

Fisheries Dependent Sampling    Total estimated cost: \$2,000,000  
Fisheries Independent Sampling    Total estimated cost: \$80,000

Status of the GSMFC's Gulf-wide initiative for  
Methylmercury in Marine Fish



....and in developing consistent fish consumption advisories and public outreach information regarding the health effects of methylmercury.

### **Status of Agreement on Advisory**

**GSMFC estimated that it will take four to six meetings and approximately two years to accomplish this task.**

Most Popular Option:

✍ **Women of child bearing age and children under 7 years of age should not consume these fish**

✍ **All others not in these sensitive sub-populations should limit consumption of king mackerel within the size range of 24-32 inches fork length to two meals/month**

Has been suggested to wait and see what FDA and EPA are going to do.

**Objective 2: Assist the Gulf States in protecting public health by providing information concerning contaminated seafood and early warnings of harmful algal blooms**

**Sub Objective 2(C): Complete a pilot project for an early-warning system to support State and coastal community efforts to manage harmful algal blooms (HABs) by the end of 2004.**

**APG 2(C)(1): Complete case study portion of the pilot project, evaluating retrospective events in the Gulf for 1996, 1997, and 2000.**

### **Red tide**



### **Why Focus on HABs?**

#### **Highly visible/multiple effects:**

Public Health: Seafood poisoning syndromes (NSP, ASP, DSP, PSP, ciguatera), respiratory irritation, memory and learning disabilities

Economy: shellfish closures, fish kills, beach advisories (tourism); loss of consumer confidence

Valued Resources: finfish, shellfish, manatees, dolphins, sea turtles

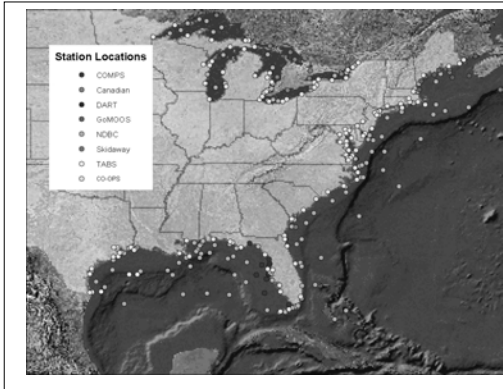
Unknown ecological effects: 'non-charismatic' species and populations; water quality; habitat quality

#### **Incentive for end-user participation**

## Integrated Ocean Observing System (IOOS)

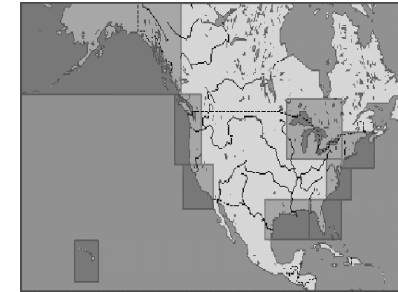
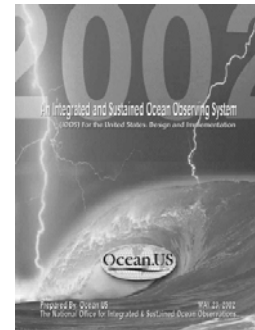
The integration of Coastal Observing Systems

HABSOS is being considered as a major Gulf component of IOOS



## HABSOS Pilot Project

One component of future  
Gulf of Mexico Regional Observing System



A Federation of Integrated Ocean Observing Systems



## Better Management

More efficient use of resources

Forecast when/where blooms will or will not occur

Early harvest of shellfish

Altered fishing limits and open seasons

Strategic placement of aquaculture sites

Mobilization of response, cleanup, and rehab crews

Public information and education; beach and shellfish advisories



## Why *Karenia brevis*?

Algae bloom keeps rolling in

**Most problematic HAB in Gulf**

**Public Health:**

brevetoxins cause neurotoxic shellfish poisoning and respiratory irritation

**Economy:**

Millions of \$\$\$ per major bloom (bed closures, beach cleanup, tourism, etc)

**Valued Resources:**

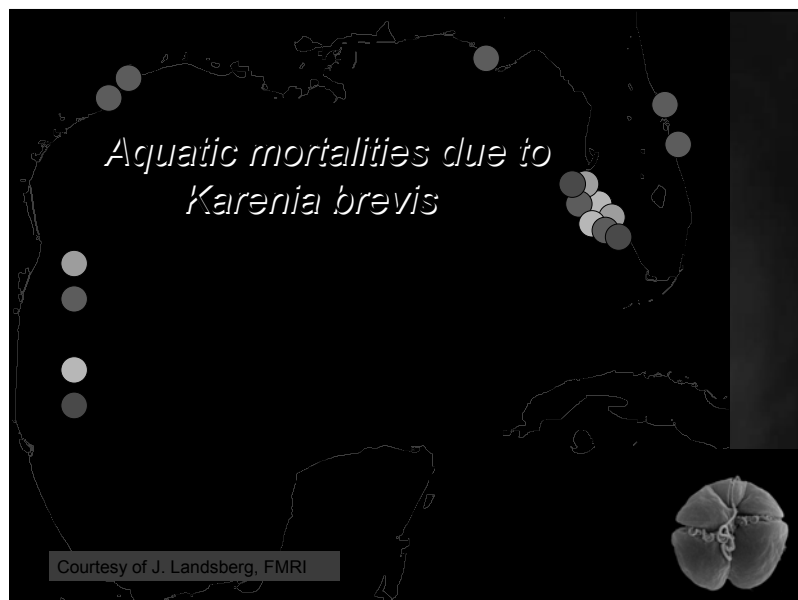
Mass mortalities of mammals, sea turtles, water fowl, fish and shellfish



Red Tide sickens another manatee

**HARMFUL/TOXIC**





## IMPACTS TO HUMANS



AEROSOL



TOXIC SHELLFISH



ECONOMY



RECREATIONAL ACTIVITIES



## HABSOS Pilot Project

- Design a HAB data management and communication system through
  - networking government agencies and coastal research labs, in order to
  - provide timely access to data and information
- Implementation will lead to
  - more effective/efficient use of collective resources on a regional scale
  - more timely detection, tracking and forecasting

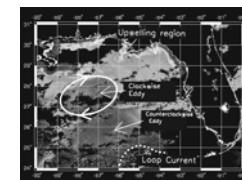


Assemble relevant data and communicate useful information



## User Requirements

- Data to make decisions:
  - Public Health: fish/shellfish consumption, beach closures, beach advisories
  - Aquaculture: sites, disease, mortality
  - Economic: tourism, beach clean-up, monitoring, fisheries
  - Dissemination of information
- 24 hr advance notice
  - Alert that an event is in progress
  - Forecast where/when (movement, landfall)
  - Warning of conditions favorable for initiation





## Challenge:

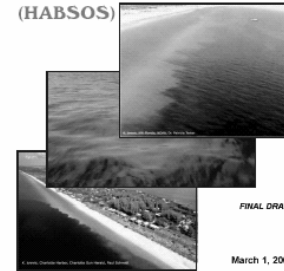
### Develop data management and communications system

- Little consistency among programs – states operate differently
- Not all data in electronic data bases – if electronic, mostly on individual PCs, and little available online
- No comprehensive inventory of existing/available data/metadata
- Poor communications between State agencies, between State & Federal agencies and between gov't agencies and coastal research labs



## HABSOS Pilot Project

### Prospectus The Gulf of Mexico Pilot Project for a HARMFUL ALGAL BLOOMS OBSERVING SYSTEM (HABSOS)



FINAL DRAFT

March 1, 2002

Schedule of Activities for HABSO5 Pilot Project (Federal fiscal quarters)												
Performance Measure (PM) Activity	1999			2000			2001			2002		
	1	2	3	1	2	3	1	2	3	1	2	3
PM 1. Establish a network				X								
Prepare working prospectus	X	X	X									
Establish MOUs among partners	X	X	X	X								
Form steering Committee				X								
Incorporate essential programs				X								
PM 2. Conduct presentation of data							X					
Prototype pilot system				X	X	X	X					
Plan for user feedback		X	X	X	X							
User guidelines				X	X							
PM 3. Regional data availability										X		
Customer request panel		X										
Perform Case Study		X	X	X	X	X						
Document data availability									X	X		
PM 4. Research and forecast capability												X
Establish internet communications					X	X	X	X				
Automated data processing										X	X	
User feedback on system					X	X	X	X	X			
PM 5. Research results (final report)												X
Essential institutional commitment										X	X	
Technical gaps, needs										X	X	
Cost estimates												X



## HABSOS Pilot Project

- HAB expertise around GOM
  - K. Steidinger, FMRI (FL)
  - J. Pennock, DISL (AL)
  - C. Moncreiff, GCRL (MS)
  - Q. Dortch, LUMCON (LA)
  - J. Simons, TPWD, and T. Villareal, UTMSI (TX)
- Select recent years (bloom vs non-bloom) for retrospective case study
  - Identify data potentially useful to monitoring, tracking, forecasting
  - Locate and characterize the scale, extent and format of data



## HABSOS Pilot Project Retrospective Case Study

**Major Question:** With the relevant data and communication infrastructure in place, could we have forecast or predicted the development, transport and impacts of K. brevis

- Initiates the HABSOS Pilot Project
- Working Group
  - HAB experts plus  
S. Gallegos (NRL), K. Duvall (DISL, Castnet), R. Stumpf (NOAA/NOS), T. Orsi (NOAA/NCDDC)
- Retrospective analysis:
  - 1996 & 2000 - geographically-extensive blooms years
  - 1997 - a geographically-limited bloom year



## HABSOS Case Study Objectives

- Identify, characterize, and organize data from 1996, 1997 and 2000
- Integrate data into regional format applicable to forecasting
  - Characterize & resolve obstacles related to data entry, storage, and retrieval
  - Initiate a network and process for linking and integrating multiple data types from multiple sources
  - Initiate web-based presentation system subject to user feedback
- Identify and characterize *K. brevis* events



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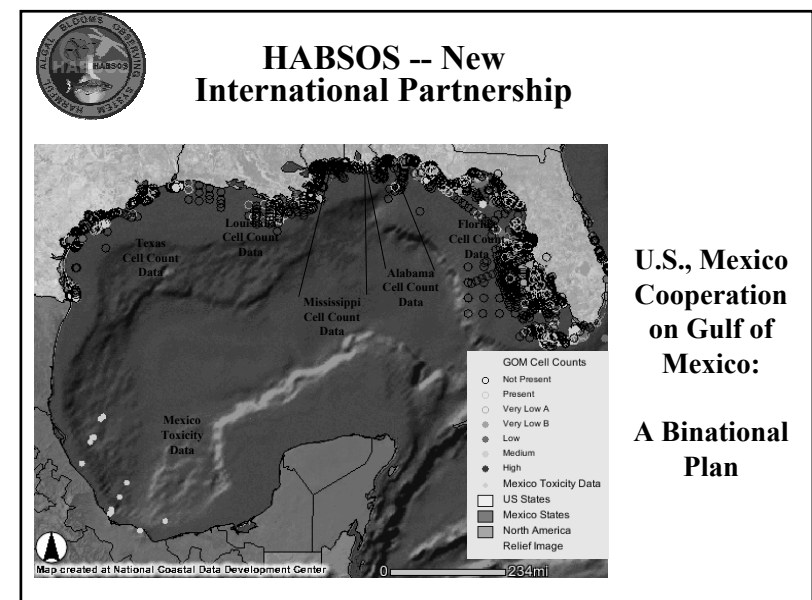
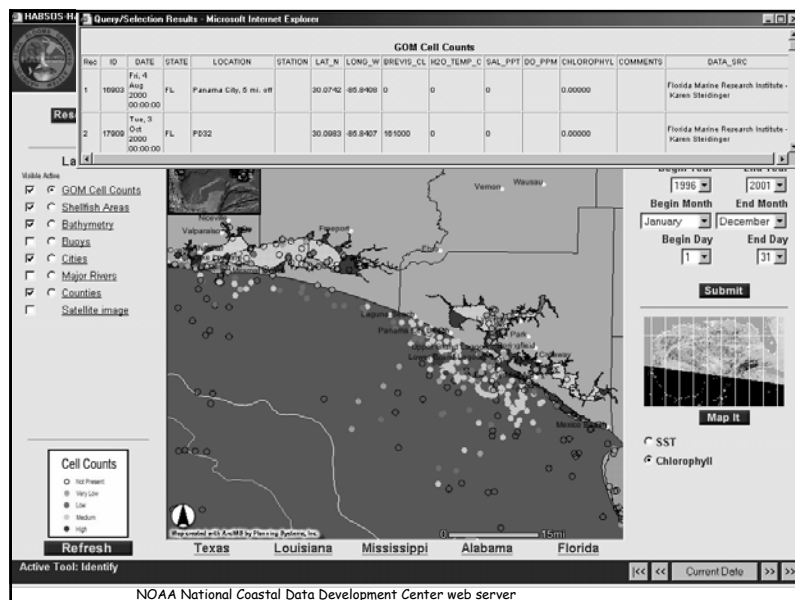
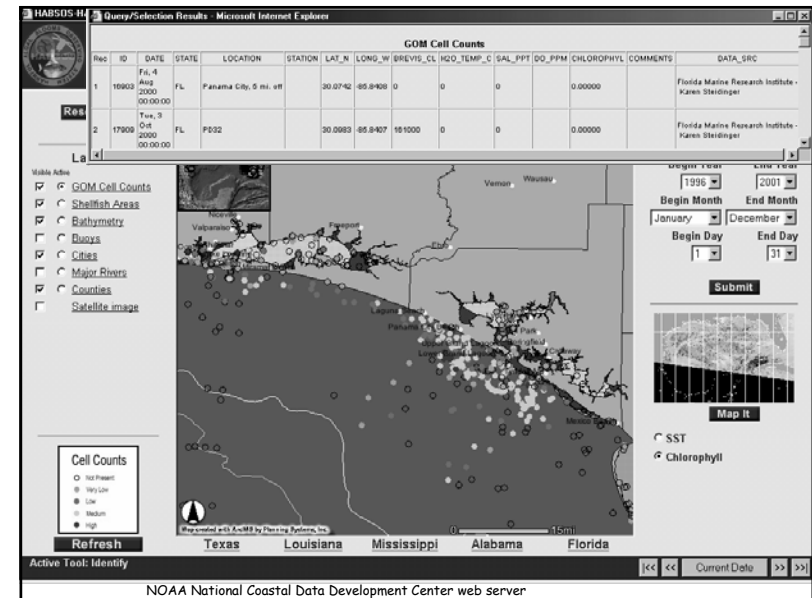
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## Obstacles and Challenges

- **Time:** 1-2 people/State qualified/accurately identify and enumerate cells
  - legal barriers related to shellfish bed closures (30 day)
  - rely on word-of-mouth on reports of fish kills
- **Limited capacity to monitor coastal waters**
  - driven by event response
  - identify conditions conducive to blooms
- **Satellite Ocean Color sensors**
  - detection limits of ~50,000-100,000 cells/L
  - need ground truth/validation of nearshore/beach
  - *K. brevis*-flag appears to work in FL, but does it work elsewhere?



## Case Study Products

- Visualization of events prior to, during, and following *K. brevis* blooms
  - Web-based portal system for linking and integrating multiple data types from multiple sources
  - A simulation of the blooms to demonstrate the benefits of timely data integration and information dissemination
- 
- **Report to Steering Committee**
    - Addressing question: With the relevant and timely data, could we have provided early alerts and forecasted transport of *K. brevis*?
    - includes obstacles and challenges identified during Case Study
    - Recommendations for developing and implementing a real-time or near real-time HABs observing system



## GMP ROLE

*GMP PROVIDES UMBRELLA  
GOVERNANCE STRUCTURE*

**HABSOS Steering committee organization  
and facilitation**

**Case Study support and facilitation**

**Binational/Mexico Support**

Projects in Alabama – HAB monitoring  
and research – report HABs on web site

Project in Texas – TexHAB Coordinator  
(proposed)



## Objective 2 – Public Health

**FY 2000-FY 2003:**

**GMP has funded 13 projects to assist in  
protecting public health –**

**\$535,324**

## GMP's FOCUS



- Seagrasses
- Coastal Emergent Wetlands



- Ship Ballast
- Shrimp Viruses
- Gulf Regional Panel



## HABITAT OBJECTIVE 3

By 2009, the GMP will restore, enhance, or protect important coastal and marine habitats that are essential to the recreational and commercial fisheries of the Gulf, *including the prevention and control of invasive aquatic species* in U.S. areas of the Gulf by 20,000 acres.



## How is the Habitat Acreage Goal Accomplished?

Through Selection of:

\*State Projects –State meeting process

\*Partnership Projects

*\* All Habitat Project Selection is based upon review and ranking by Habitat Team members and GMPO staff.*

## GMP Acreage Totals

FY 2000	GOAL: 400	ACTUAL: 1,353
FY 2001	GOAL: 1000	ACTUAL: 732
FY 2002	GOAL: 2400	ACTUAL: 3,363
FY 2003	GOAL: 2400	ACTUAL: 1,214

CUMMULATIVE GOAL:	6,200
GMPO TOTAL :	6,662

## GMP Habitat Restoration Partnership Programs

- National Fish and Wildlife Foundation
- NOAA Community Restoration Grant Program
- Texas Corporate Wetlands Restoration Partnership



## National Fish and Wildlife Foundation/GMPO

A cooperative agreement since 1999



This agreement has supported:

Shell Marine Habitat Restoration Program

5-Star Habitat Restoration Program

Partners include NOAA, EPA HQ and Region 4 and 6/

*\*Habitat Team members review and rank proposals*



## NOAA Community-Based Restoration Partnership (CRP)



- 2002 – Start of Gulf of Mexico Program/NOAA CRP partnership.
- Gulf of Mexico Foundation provides administrative support through cooperative agreement with GMPO.
- NOAA CRP targets essential fish habitat projects located in Gulf Ecological Management Sites (GEMS), but all Gulf coastal area projects that restore essential fish habitat are eligible for funding.
- Grantees must provide 1:1 match.
- Grant Program has grown to \$370,000 for FY 2004

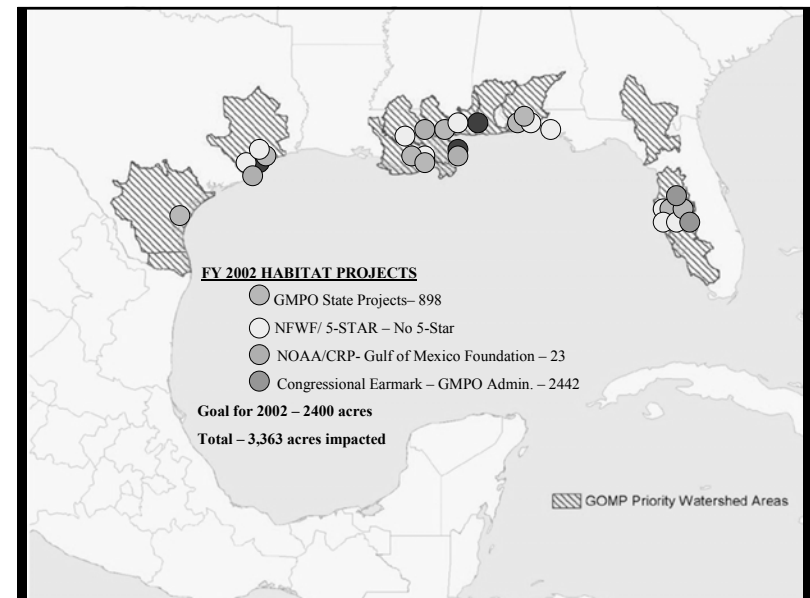
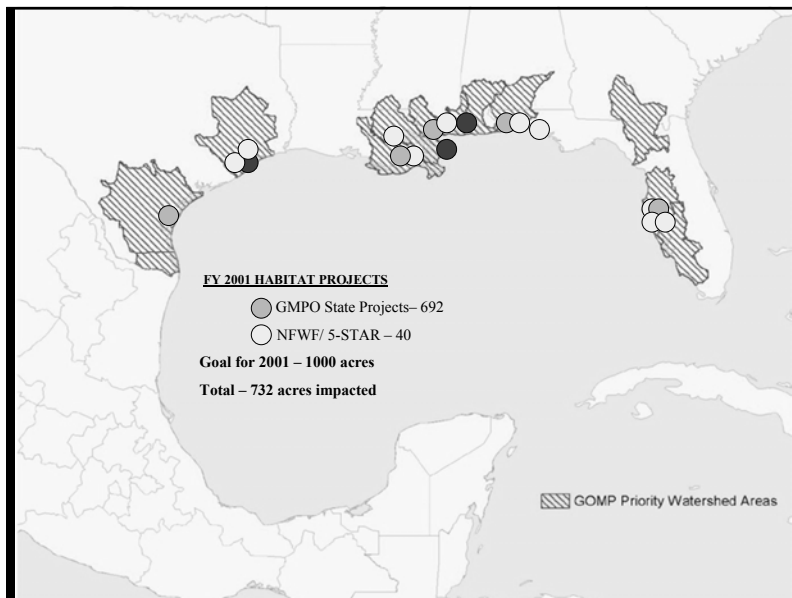
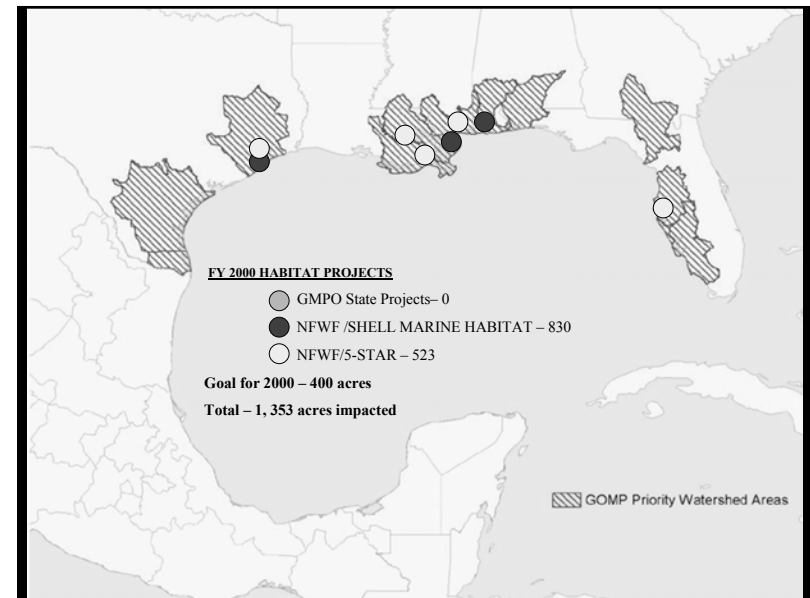
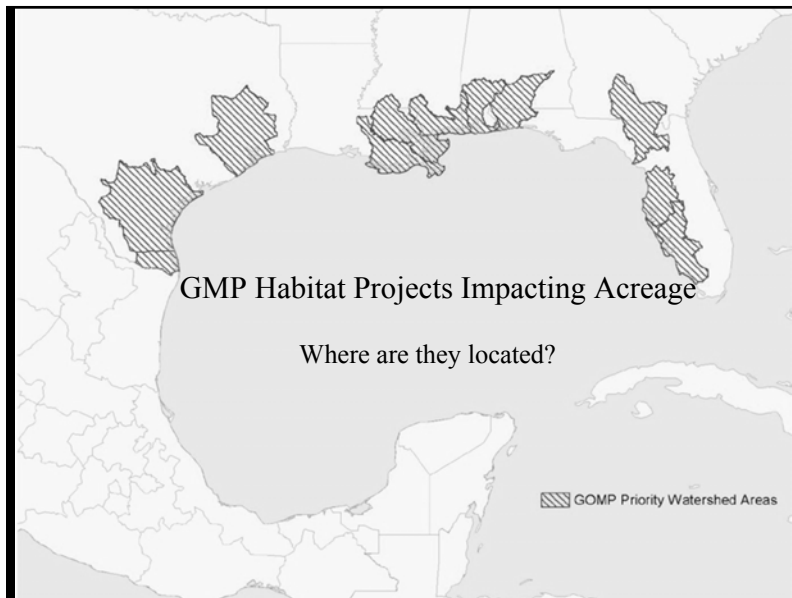


## NOAA Community-Based Restoration Partnership (CRP)

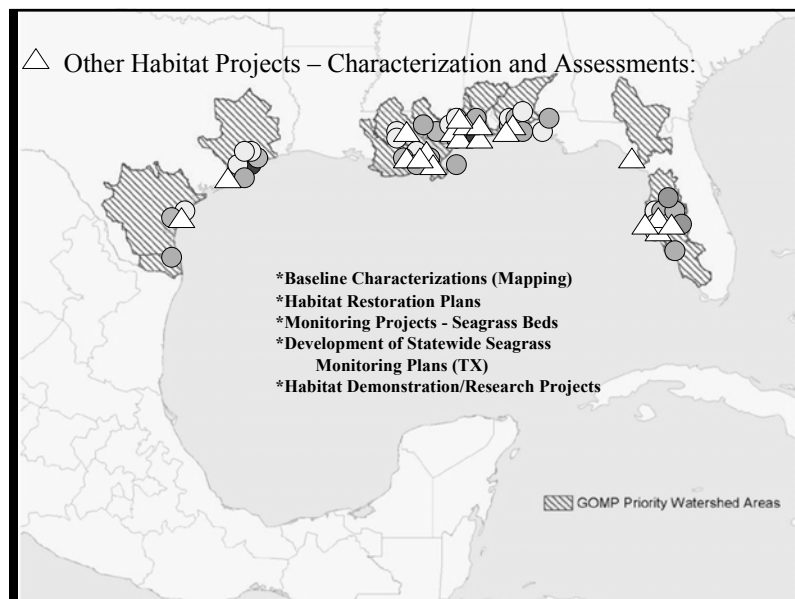
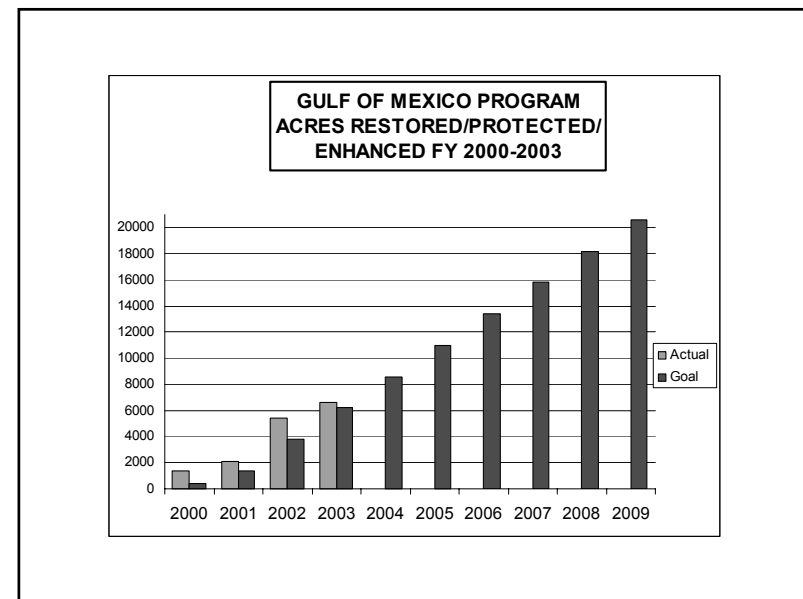
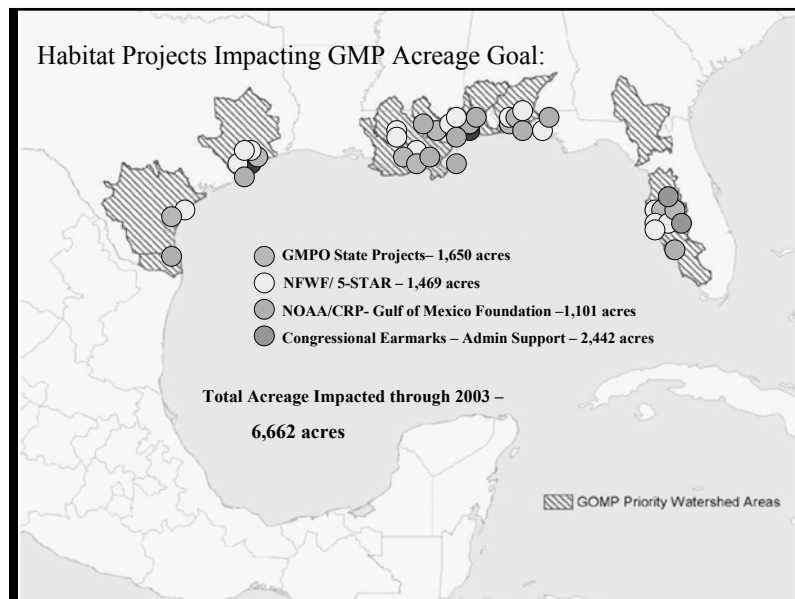


### Recent Events:

- Through the initiative of the US Fish and Wildlife Service, Gulf Ecological Management Sites (GEMS) Managers added 31 National Wildlife Refuges as GEMS, bring the total of GEMS sites to 124.







## The Nature Conservancy – A growing partnership

1999 – Cooperative Agreement with TNC – Developed an Gulf Ecoregional Plan

- \* Identified critical coastal habitat sites along the Gulf
- \* Gathered critical data on seagrasses, wetlands, and locations of oyster reefs, and endangered species.

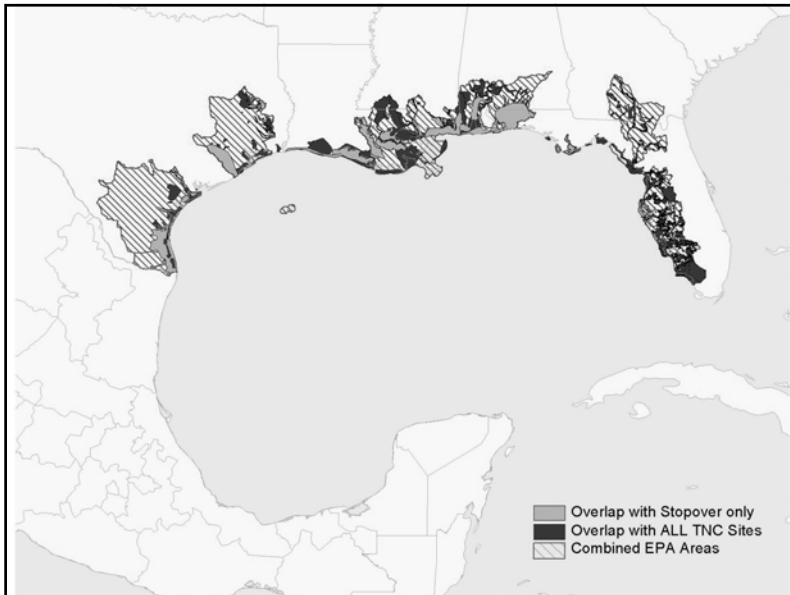
2003 - GMP is funding the Nature Conservancy to implement its Gulf of Mexico Initiative and support Gulfwings.



How will this partnership enhance our Habitat acreage goal?

### Tasks (continued)

1. A Gulf-wide conservation vision by identifying cross-cutting areas to target habitat restoration projects.
2. Build partner capacity in Mexico, and
3. Demonstrate why Gulf conservation is of national & international importance.



### HABITAT SUBOBJECTIVE:

Establish current baseline for coastal marine habitat:

By 2004, the GMP will complete development of an updated Gulf-wide characterization of the status and trends of seagrassess and coastal wetlands.





## Northern Gulf of Mexico Seagrass Status and Trends Report

Developed by the

Gulf of Mexico Program  
And  
U.S. Geological Survey  
National Wetlands Research Center

Steering Committee:

Lawrence Handley, USGS  
Diane Altsman, EPA/GMPO  
Richard DeMay, BTNEP

**Sub-objective:** By 2009, develop and implement regional and state-specific aquatic nuisance species management plans for coastal waters designed to prevent new introductions and reduce the impact of established invasive species.

**STATUS:** LA.07 –The Louisiana Department of Wildlife and Fisheries was given a grant in 2002 to write a comprehensive Louisiana Aquatic Invasive Species Plan. A draft plan has been completed.



– **Subobjective 3(B):** Assist in the implementation of Louisiana's Coast 2050 Plan to divert Mississippi River water and restore coastal wetlands in a manner that achieves a 15% reduction in the annual nitrate load from the River to the Gulf.

- **Status:** GMPO offered communication/modeling assistance to the LCA outreach and technical committees.
- GMPO supported several Louisiana coastal wetlands improvement projects



## Objective 3 – Habitat

**FY 2000-FY 2003:**

**GMP has funded 72 projects to assist in protecting, restoring, enhancing habitats  
–\$4,043,418**

## GMP's FOCUS



- Gulf Estuaries
- Gulf Hypoxia



## Objective 4 – Nutrient Enrichment

**FY 2000-FY 2003:**

**GMP has funded 11 projects to assist in  
protecting public health –  
\$986,400**

## GMP's FOCUS



### Gulf of Mexico Program Citizens Advisory Committee

*The purpose of the Citizens Advisory Committee (CAC) is to provide guidance, advice, and support for the Gulf of Mexico Program*

**CAC Composition:**

- *Appointed by the Governor, the CAC is comprised of five citizens from each of the five Gulf states*
- *Represent five interests for each state*
  - Agriculture
  - Environment
  - Business and Industry
  - Tourism
  - Fisheries

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**Goal:**

**Objective 5(B):** *Support the Citizen's Advisory Committee efforts to achieve improved regional awareness of the value of Gulf resources, key environmental issues, and actions underway or needed to solve the problems.*

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**5(B)(1):** *CAC members will attend and participate in CAC meetings, Focus Team meetings, MC/PRB meetings, annual Comprehensive meeting, and Project Team meetings; give presentations to local groups in support of GMP efforts; participate in outreach or communications with constituents in the GMP Priority Areas.*

- Year 2000 - Three CAC meetings; Year 2001 – Three CAC meetings; Year 2002 – Two CAC meetings; Year 2003 - Two CAC meetings (one to be held next month)
- Participation in Focus Team, Management Committee and Policy Review Board meetings.
- Participation in Comprehensive meetings, Mercury in Fish Consumption Advisory Task Force, MMRC and other GMP related meetings
- GMP Office developed a PowerPoint presentation for CAC outreach activities

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**5(B)(1):**

● **Year 2000:**

- Meeting w/GMP Director and the President of the Board of Supervisors;
- Women for a Better Louisiana
- Greater Houston Chamber, East Harris County Manufacturers Association

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**5(B)(1):**

● **Year 2001:**

- Greater Houston Chamber of Commerce and East Harrison County Manufacturers
- Galveston Bay Committee meeting
- TEEP meeting
- Women for a Better Louisiana meeting
- Coalition to Restore Coastal Louisiana meeting
- BTNEP Management and Steering Committee meetings
- Farm Bureau meeting
- Presentation to Ladies Group

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

5(B)(1):

● **Year 2002:**

- Kiwanis Club, American Institute of Chemical Engineers, Legacy Partners in Education, and Mobile Bay Watch meetings
- Nation Marine Education Conference, GMP Video News Release taping, Teacher Workshop on Invasive Species, National Marine Science Education Conference
- Presentation/Update at American Farm Bureau Conference
- Clean Gulf Conference, Chevron Naturalist's Teachers Recognition
- Clean Texas, Galveston Bay Foundation Executive Council, Galveston Bay Foundation Annual, Clean Texas Team, Galveston Bay National Estuary Program Council, and Galveston Bay National Estuary Program Sediment Quality Subcommittee meetings

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

5(B)(1):

● **Year 2002** *(continued)*

- Trust for Public Land, USACE Interagency Coordination, Harrison County Flood Control District, Houston-Galveston Area Council Natural Resource Advisory Committee, Texas Water Development Board, Galveston Bay Freshwater Inflows Group, and Galveston Bay NEP meetings; Natural Resources Committee Gulf Restoration Network Conference, Buffalo Bayou Partnership Presentation, Sierra Club Regional Water Conference
- Women for a Better Louisiana, WBL Board, Coalition to Restore Coastal Louisiana, CRCL Board, Lake Ponchartrain Basin, and BTNEP Committee for Migratory Bird Habitat meetings; Tulane Environmental Law Conference

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

5(B)(1):

● **Year 2003**

- Local Farmers Club Meeting
- Mobile Bay NEP Management Committee, Coastal Resource Advisor Committee, Alabama Clean Water Partnership, and Coastal Resources Advisory Committee meetings
- Coastal Resources Advisory Committee and Natural Resource and Conservation Service meetings
- Mote Marine and Pinellas Environmental Foundation Presentations; Invasive Exhibit, Ocean Conservancy, Florida Sea Grant and Tampa Bay NEP invasive species teaching assistance, and Project Aware Focus Group meetings
- MRBA Dead Zone meeting
- Mitigation Bank Workshop; LA Coastal Area Restoration Study and Coalition to Restore Coastal Louisiana Meetings

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

5(B)(1):

● **Year 2003**

- Women for a Better Louisiana, Coalition to Restore Coastal Louisiana, Lake Ponchartrain Basin Foundation Board, and Barataria/Terrebonne NEP Habitat committee meetings
- Board of the Southern Shrimp Alliance meeting
- Attended Moss Point's presentation to National Audubon Society about Satellite center, Master Naturalist Program promotion
- Board of Valley Land Fund Assoc., and Mexican environmental group meetings, Liaison with Padre Island Grassland and Beach Restoration Programs
- Houston/Galveston Area Natural Resources Advisory Council, Galveston Bay Council, and various Galveston Bay Estuary Program related meetings; Clean Texas Conference, Texas Watch's Water Quality Forum
- Hosted Texas Farm Bureau meeting with Bryon Griffith

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**5(B)(2): CAC members will review GMP products, Gulf Guardian applications, and will communicate with Governors' Offices and Congressional members/constituencies.**

- CAC members represent and provide briefings about the GMP to Governors' offices; provide support for the GMP, and feedback on CAC membership selection
  - 2000: Conference calls for Congressional letters; letters to Governors; Reviewed GMP Non-Indigenous policies; Gulf Guardian judging
  - 2001: Meeting with Governor's Policy office; letters to Governors; mailed Congressional letters; Gulf Guardian judging

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**5(B)(2): CAC members will review GMP products, Gulf Guardian applications, and will communicate with Governors' Offices and Congressional members/constituencies.**

- **2002:** Briefing with Office of the Governor; GMP Executive Order comments; One Gulf Press Release comments; Comments to Communication Committee; Attend and provide input on GMP state project meetings;
- **2003:** Meeting with Office of Governor; Telephone Conversation with Governor's Office; Attend and provide input on GMP state project meetings

CAC GMPO Annual Performance Goal  
Accomplishments for Years 2000-2003

**5(B)(3): CAC members will participate in State/local public meetings and public comment opportunities related to Gulf activities and in CAC-initiated outreach projects in GMP Priority Areas.**

- Louisiana Wetlands Loss Resolution for the Gulf of Mexico Program's Policy Review Board
- Gulf of Mexico Program Executive Order – Letter of Support from the CAC
- "Gulf Coast Bird Trails" on GMP CAC Web page
- 2001 Resolution to EPA Administrator endorsing the PRB's "Appropriation and Policy Recommendations to Improve Water Quality and Living Resources of the Gulf of Mexico"

**Alabama CAC Meeting Participation**

CAC Member	Governor Appointed/ Reappointed	Alternate Member	Interim Member
Brian Grantham, Agriculture	8/19/2003		
Robert Crowe, Business	8/19/2003		
Casi Callaway, Environment	8/19/2003		
Eva Golson, Tourism	8/19/2003		
Debbie Tucker-Corbett, Tourism		7/19/2001	
Chris Nelson, Fisheries	8/19/2003		

## Louisiana CAC Participation

CAC Member	Governor Appointed/ Reappointed	Alternate Member	Interim Member
Paul Maclean, Agriculture	1/5/2000		
Benjamin Legendre, Agriculture		11/18/2002	
McChord Charrico, Business			5/14/2003
Jean Westbrook, Environment	1/5/2000		
Carolyn Cheramie, Tourism	1/5/2000		
Donald Lirette, Fisheries	1/5/2000		

## Florida CAC Participation

CAC Member	Governor Appointed/ Reappointed	Alternate Member	Interim Member
Scottie Butler, Agriculture			12/7/1999
VACANT, Business			
Heidi Lovett, Environment	10/8/1991		
Becky Clayton, Tourism			12/7/1999
Robert Jones, Fisheries	10/7/1988		
Greg DiDomenico, Fisheries		12/5/2002	

## Mississippi CAC Participation

CAC Member	Governor Appointed/ Reappointed	Alternate Member	Interim Member
Don Waller, Agriculture	10/23/1990		
J.R. Wilson, Business	5/4/1993		
Lee Harbison, Business		5/3/2001	
Patty Caranna, Environment			4/9/2001
Jenell Tompkins, Tourism			3/1/2002
Thomas Schultz, Fisheries	11/1/1996		

## Texas CAC Participation

CAC Member	Governor Appointed/ Reappointed	Alternate Member	Interim Member
Ned Meister, Agriculture	10/15/1996		
Erich Schneider, Agriculture		1/24/2002	
James Kachtick, Business	10/15/1996		
Linda Shead, Environment			4/20/2002
David Alex, Tourism			1/24/2002
VACANT, Fisheries			



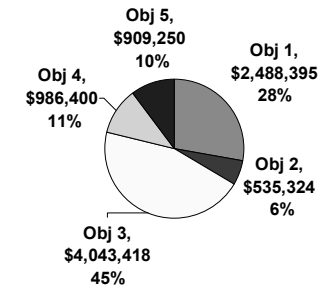
# Objective 5 – Stewardship/ Education Outreach



FY 2000-FY 2003:

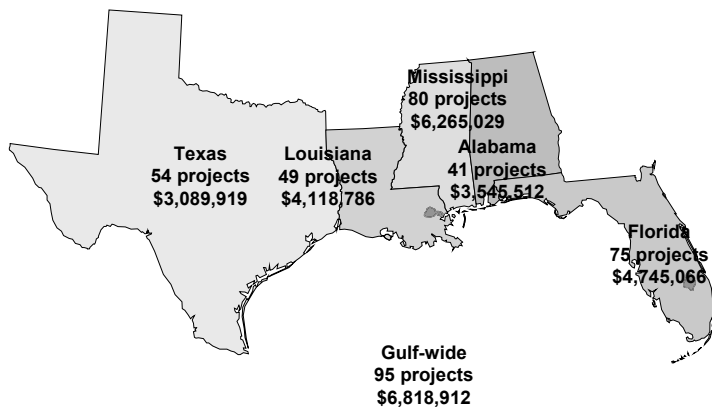
GMP has funded 26 projects to assist in stewardship/education and outreach (including support for the CAC) – \$909,250

## FY 2000-2003 Gulf of Mexico Program Funding by Objectives



011110GC

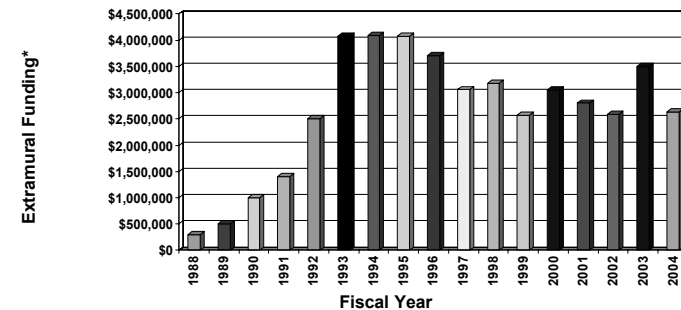
## The Gulf of Mexico Program at Work 1988-2003



Totals 394 projects \$28,583,224

00170GC

## Gulf of Mexico Program Office Historical Funding and Projection 1988 - 2004



\*Extramural Funding does not include salaries and travel.



## **Appendix D**

Hypoxia Action Plan, Larinda Tervelt

Citizen's Advisory Committee Meeting  
Galveston Texas November 5, 2003



## Action Plan

for Reducing, Mitigating, and Controlling Hypoxia  
in the Northern Gulf of Mexico



Photo: Louisiana Office of Tourism

### HYPOXIA

Where we are...

Where we are going...

by  
Larinda Tervelt  
GMPO

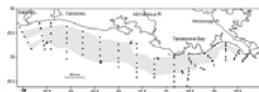
## Action Plan

for Reducing, Mitigating, and Controlling Hypoxia  
in the Northern Gulf of Mexico



Photo: Louisiana Office of Tourism

**Objective 4:** By the year 2015 support national efforts to reduce the 5-year running average areal extent of Gulf hypoxia to less than 1,930 square miles.



FY2003 – Collaborative (ORD-GED, OW, & GMPO) Initiation of the Gulf Hypoxia Modeling and Monitoring Framework

### Background Monitoring Surveys:

#### Completed:

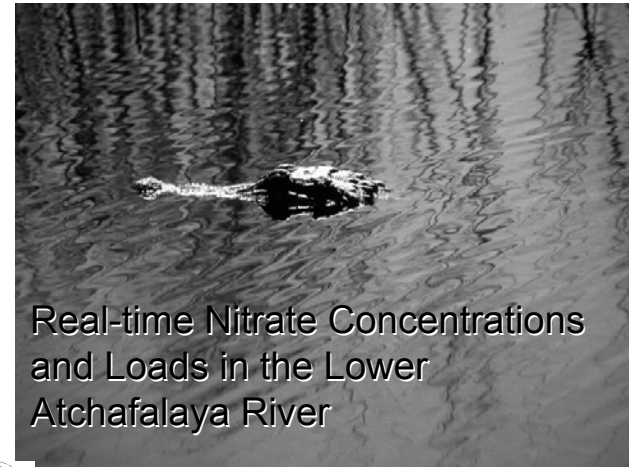
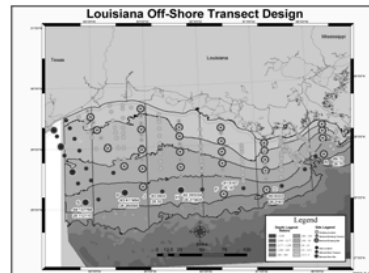
December 2002  
March 2003  
June 2003

#### Scheduled:

November 5 – 19, 2003

#### Anticipated

March/April 2004  
June/July 2004  
October/November 2004



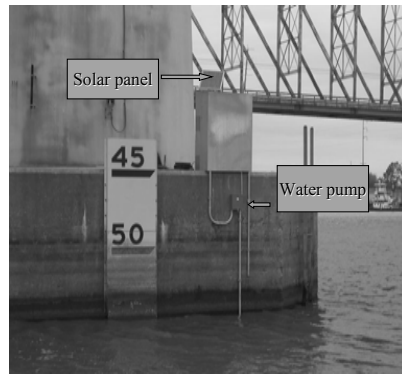
Real-time Nitrate Concentrations  
and Loads in the Lower  
Atchafalaya River



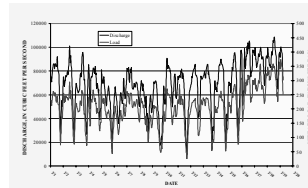
GW.NE.03



## Real-time Nitrate Concentrations and Loads in the Lower Atchafalaya River



Nitrate Analyzer Installation, 11/02



Predict the size of the hypoxic zone in the Gulf  
Assess efforts to reduce nutrient flux to the Gulf



2

By Summer 2001, States and Tribes in the Basin, in consultation with the Task Force, will establish sub-basin committees to coordinate implementation of the Action Plan by major sub-basins, including coordination among smaller watersheds, Tribes, and States in each of those sub-basins;

### Lower Mississippi River Sub-basin



**LA Governor's Office  
Form Lower MS Sub-basin  
Team  
1st meeting Feb 10, 2003  
2nd meeting Aug. 6, 2003**

**Louisiana Governor's Office –  
Request GMPO to Facilitate  
Sub-basin Team Development**

**GMPO Acceptance to Facilitate  
Sub-basin Team Formation  
(November 26, 2002)**

6

By Fall 2002, States, Tribes, and Federal agencies in the Gulf of Mexico Program Basin will have completed the following actions:

The Action Plan calls for:

The formation of sub-basin committees

Coordination of implementation actions

Development of strategies for nutrient reduction



## Lower Mississippi River Sub-Basin Committee



### Participating States:

AR, LA, MS, TN, MO

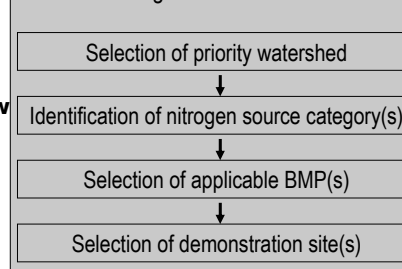
- Focus and maximize resources
- Support local scientific solutions

**Goal:** Select a Site and BMP for N Load Reduction Where Environmental Response Can Be Quantified

### Site Selection Status:

**Louisiana:** Cabin Teele  
Joe's Bayou  
**Arkansas:** Bayou Bartholomew  
**Mississippi:** Lake Washington  
**Missouri:** choosing 1 of 5  
**Tennessee:** Hatchie River Watershed

### The Strategic Assessment Process



## Continuing efforts



- **Work within the pilot Watershed Projects**
- **Include "indicators of success"**
- **Transfer successful actions to other sub-basins**

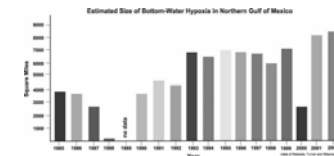
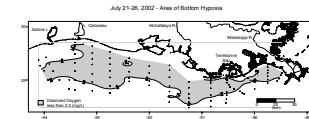
## APG 4(B)(2): Support the *Action Plan* to reduce nutrient and sediment loads to the Mississippi/Atchafalaya Rivers



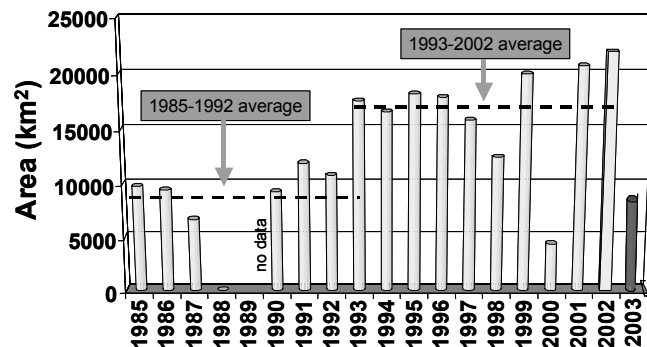
### *Action Plan* for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico



January 2001

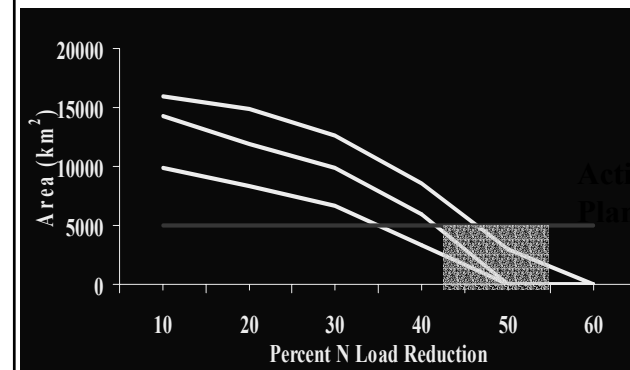


## Areal Extent of Hypoxic Zone 1985 - 2003



(source: N. Rabalais, LUMCON)

## Effects of Reduced N Loads



**35 - 45% N Load Reduction  
May Be Required to Reach  
Action Plan Goal of 5,000 km²**

Scavia et al. 2003

## Nutrient Farming



Using restored wetlands as “nitrogen farms”

## The Wetlands Initiative Workshop



Produce nitrogen farm pilot projects

Provide information to assess economic feasibility

Site location and selection

Engineering Design and Management

Ecological design and management

Economics

## Nutrient Farming



### Strategy to improve water quality

- remove excess nutrients from surface waters
- sell or trade credits

### Ecological benefits

- Wildlife habitat
- Open space
- Recreational opportunities

### Economic opportunities

- Alternative farm income

## Nutrient Farming (Summary)



### Viable approach would:

- Establish several pilot projects throughout the basin
- Vary in size, scale, and landscape position

## Conclusion



**Nitrogen farming would restore land to wetlands and then rely on the natural functions of wetlands to reduce nitrates far more economically than conventional treatment methods. Further, nitrogen farms would prosper where conventional farms falter—on flood prone bottomlands.**



**Restored wetlands will have a greater economic value when the USEPA establishes nutrient standards and the states adopt related regulations.**

## Other opportunities **Industry-Led Solutions**



## **Green Lands, Blue Water**



Illinois Bundle Flower



Alfalfa



FLAX

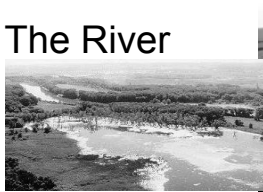


**"Life is what happens while you're busy making other plans."** John Lennon

ca. 1980



## The River



Changes in land use and land use practices have degraded water quality and increased sediment and nutrient problems in the river and the Gulf of Mexico



## Plans We Can Make

Create opportunities for improved communication among the public to share information.



Communicate recommendations for action clearly to the public – encourage leadership and public support



## The Opportunity Spectrum

1. Be advocates for the Gulf ecosystem and seek citizen, agency and congressional support for programs that will restore and maintain the ecological health of the Gulf
2. Look for opportunities to make better use of electronic and print media, using some well-developed themes which reach both urban and rural audiences.
3. Understand the issues
4. Develop information
5. Provide information to the public, other organizations, resource managers and agencies



## Opportunities



identify funding not dependent upon federal appropriations process



Other Opportunities?



## **Appendix E**

Communications Review, Terry Hines-Smith

## **Communications Review**

### **Citizens Advisory Committee Meeting**

**November 5, 2003**

**Galveston, TX**

## **Communications Review**

### **Objective 5:**

**Foster regional stewardship and a strong sense of community and value among Gulf State residents, and tourists to protect, restore, and responsibly use the resources of the Gulf of Mexico.**

## **Communications Review**

### **Sub Objective 5(A):**

**By 2005, achieve improved regional awareness of the value of Gulf resources, key environmental issues, and actions underway or needed to solve the problems.**

## **Communications Review**

- **Gulf Guardian Awards 5(A)(1)**
- **Video News Releases 5(A)(2)**
- **Survey 5(A)(3)**
- **Annual Report 5(A)(4)**
- **“One Gulf” Campaign 5(A)(5)**
- **CC Members on Project Teams 5(A)(6)**
- **Other Communication Projects**

## Gulf Guardian Awards

5(A)(1)

- 4<sup>th</sup> Annual Ceremony held Sept. 24 at the Southern States Environmental Conference in Biloxi, MS
- EPA Region 4 and 6 Administrators presented awards to award winners
- Continues to garner positive media coverage
- 03 videos courtesy of Texas Farm Bureau with help from LA, MS and FL

## Gulf Guardian Awards

5(A)(1)



## Gulf Guardian Awards

5(A)(1)

WLOX-TV Channel 13  
Biloxi, MS  
Coverage of Award Winners

## Gulf Guardian Awards

5(A)(1)

- Jan 04: will begin solicitation for entries for the 5<sup>th</sup> year of the awards
- 04 applications available on GMP web site
- April 15 Entry Deadline
- Seeking funding from the Gulf of Mexico Foundation for the 04 videos

## **Gulf Guardian Awards**

**5(A)(1)**

- Travel for winners is a recurring problem; need partners to assist in getting winners needing financial assistance to ceremony; usually 3 each year @ \$600-\$800 each
- Need a partner to assume the bill for the actual mementos (@ \$3,000)
- Funding for videos may be a problem if Foundation is unable to fund in 04

## **Video News Releases 5(A)(2)**

- Produced in 2000, 2001, and 2002
- 2002-2003 Videos are currently being distributed
- MC can take copy home with them today
- CAC will receive at November meeting
- Will be mailed to CC and media outlets

## **Video News Releases 5(A)(2)**

- Used at StenniSphere in the GMP Exhibit
- Used on the GMP Popup Exhibit
- Used for multiple community presentations by MC and CAC
- Aired on the Sunshine Network Repeatedly -- 5.5million viewers throughout Florida
- Aired on Hillsborough TV (Govt. Access)
- Aired on Manatee TV (Govt. Access)
- Aired on Pinellas TV (Govt. Access)
- Aired on New Orleans Educational TV

## **Survey**

**5(A)(3)**

**APG**

By March 2003, complete scientifically based survey to evaluate regional awareness of Gulf issues.

Status: Not completed

## **Annual Report**

**APG**

**5(A)(4)**

By January 2004, complete GMP FY2003 annual report.

Status: Not completed; discontinued per GMPO director

## **“One Gulf” Campaign**

**5(A)(5)**

- June 02: billboards along I-10 (complete)
- Space donated by Lamar Advertising worth in excess of \$100,000
- Remained up for 12 months
- Directed viewer to informative web site
- Received call from student

## **“One Gulf” Campaign**

**5(A)(5)**



## **“One Gulf” Campaign**

**5(A)(5)**

**<http://www.onegulf.org>**

- 02: Operational for 1.5 years now
- Collaborative Effort
  - USM Purchased URL and is housing the site on the USM server
  - MS-AL Sea Grant designed site
  - CC members updated “Gulf Repair Kit” and Household Chemical Collection Days Information

## “One Gulf” Campaign 5(A)(5)

<http://www.onegulf.org>

- Includes Facts on the Gulf of Mexico
- Includes Links to Partners
- Includes Tangible Things Public Can Do
- Includes Contact Information for CC Members

## “One Gulf” Campaign 5(A)(5)

- 04: Radio PSAs (3 in English; 3 in Spanish)
- Begin airing on Clear Channel and possibly Triad Broadcasting Company radio stations Gulfwide in January and February 2004
- Direct listeners to “One Gulf!” Web Site
- Production courtesy of Texas Farm Bureau ☺
- Voice talent courtesy of Texas Farm Bureau and Texas Commission on Environmental Quality ☺
- Should reach an audience in the millions

## “One Gulf” Campaign 5(A)(5)



## “One Gulf” Campaign 5(A)(5)

- |   |   |   |
|---|---|---|
|  |  |  |
| English 10 second   | Seafood English   | Sport English   |
|  |  |  |
| Spanish 10 second   | Seafood Spanish   | Sport Spanish   |



## **Project Teams**

**APG**

**5(A)(6)**

In FY 2003, Communications Committee members will be integrated into GMP Project Teams.

Status: 3 CC members serve on Mercury Team

## **Other Projects: Placed-Based**

- 2000-2003: Celebrate the Gulf (Pass Christian MS)
- 2003 Bayfest (Mobile/Baldwin County AL)
- Expansion of Dockwatch
- Invasive Species Exhibit at the Florida Aquarium
- Pascagoula River Documentary
- Bringing Sea Turtles Into the Next Century
- Model Smart Growth Planning

## **Other Projects: Placed-Based**

- Bayou Lafourche Initiative (Year 1 & 2)
- Citizen's Water Quality Monitoring and Marine Habitat Enhancement Project
- Data Inventory & Needs Assessment of Florida's Gulf of Mexico Program Projects
- Web Enabled Bay and Gulf Interactive Eco-Tour

## **Other Projects: Gulfwide**

- 2000 Gulf of Mexico Symposium
- 2002 The Coastal Society Symposium
- Invasive Plants Documentary (3 years)
- 11<sup>th</sup> International Conference on Invasive Species
- Seed Grants for Public Education and Outreach on Invasive Species
- Shareholder Reports

## Communications Review



## **Appendix F**

### **Follow-up Action Item Summary**

**Follow-up Action Item Summary**  
**Citizens Advisory Committee Meeting**  
**November 4-5, 2003**

<b>ACTION REQUESTED</b>	<b>LEAD(s):</b>	<b>STATUS:</b>
1. Send email to CAC members to notify them of the June Summary being placed on the website.	M. Manley	Completed 11/13/03
2. Notify CAC of any activity regarding the Executive Order.	GMP	
3. Organize Water Quality 101 Presentation for March CAC meeting	GMP	
4. Prepare a description of the CAC PowerPoint Presentation for the CAC to give to an organization before they make a presentation	GMP/M. Manley	
5. Send "What is an Estuary? Now you Know!" to the CAC	Terry Hines-Smith	
6. Consider a "State of the Science" presentation on BST for March or June meeting	GMP	
7. Consider presentation on options for action/outreach to reduce nutrients when the sources are unknown	GMP	
8. Agree on attendance criteria	CAC/GMP	
9. Draft letter to CAC members who do not regularly attend meetings or have not been responding to participation requests (Letter to be sent by Brian Grantham, CAC Chair).	M. Manley	
10. Request list of state project meetings, committee meetings, etc. to be posted to the CAC website for CAC access.	M. Manley/CAC	Requested 12/1/03
11. For next meeting: CAC will work on an Outreach Plan, receive an update on the Louisiana Wetland initiatives and Resolution, and discuss what would make the GMP Presentation more useful, and what the GMP's goals are for the CAC regarding presentations	CAC/GMP	
12. Send Thank you letters to the Field Trip organizers	M. Manley/CAC	